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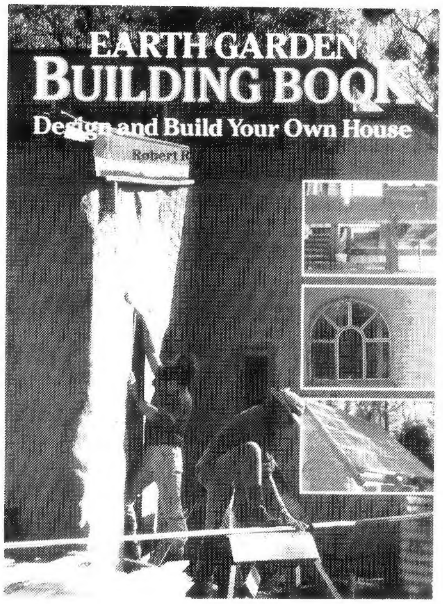
EARTH GARDEN BOOKS

Order form on page 56



EARTH GARDEN BUILDING BOOK

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Penguin, 1991. New, revised edition. 315 pages,
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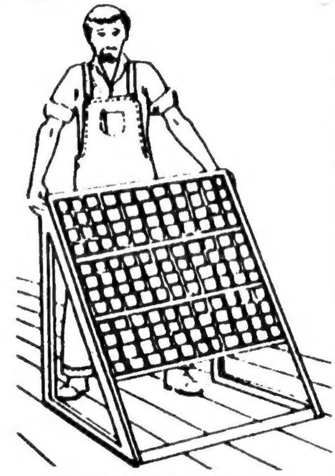

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By Keith Smith

Nelson, Melbourne, 1985, large format paperback, 211 pages, illustrated. ☐ $19.95 posted.

Why spend the rest of your life paying someone else for your electricity? Here's how to plug in the renewable energy of the sun, wind or water using an efficient 12V or 240V solar electric system, wind generator or water turbine. Run lights, radio, TV, computers, tools and appliances wherever you live.

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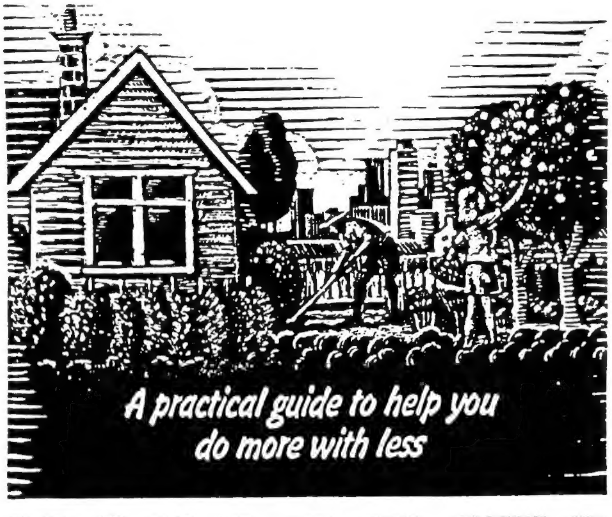
". . . This book should appeal to anyone wth an interest in the supply of energy to weekenders, farms or other remote dwellings or even to the suburban household." — Dr C. J. L. Cornish of Murdoch University, WA, in *APACE WA Newletter*.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do more with less

HARD TIMES HANDBOOK

Keith and Irene Smith

A new, revised editon of The Hard Times Handbook is now available. As we enter the last decade of the Twentieth Century major changes in Australia's economic and social life are taking place. Unemployment, inflation and high interest rates continue to make times hard, no matter what our personal situation. The book includes over 180 practical household tips, over 150 recipes for cheap, healthy meals, how to make your own supplies, grow your own food and be prepared for emergencies. The German edition of this book sold like hotcakes! See page 56 to order. $13 posted.

***EG SINGLETS !
UNBLEACHED, $15.00 EACH.***

The ultimate fashion accessory!

New from Earth Garden. Comfortable, white 100% cotton T-shirts, with the EG logo and banner printed in dark green. Sizes 16 (small), 20 (medium) and 24 (large). $14.00 plus $1.00 postage. See page 56 fast.

Front Cover. Andrew Toth owner building: his story in Earth Garden 78 proved very popular. In this issue he follows up with information about geopathic radiation. Photograph by Jorg Hennicke.

Inset: raspberry picking season has finished as time for planting winter vegies ticks away. Photograph by Lorn Nicholls.

EARTH GARDEN

Number 79

March — May 1992

Back Cover: "Wilderness, no compromise". This stirring poster from The Wilderness Society, shows the stark result of logging National Estate oldgrowth forests, such as those of the Picton Valley in Tasmania, or in East Gippsland. Photograph by Rob Blakers. The Wilderness Society is the only national environmental group working solely to save wilderness. You can join by ringing their toll free number: 008 030 641.

Tree tax: This edition's tree tax will be donated to the Concerned Residents of East Gippsland (CROEG). This will help pay for a satellite image of the entire East Gippsland forest region — to compare the 1992 picture with a 1982 satellite image for lobbying purposes.

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Founded by Keith & Irene Smith, 1972.

Publisher & Editor:	Alan Thomas Gray
Assistant Editor:	Greg Simmons
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Organic Gardening Columnist:	Jackie French
Illustrator:	Bronwyn Halls
Secretary:	Karen Sandow.

EARTH GARDEN is Australia's original journal of self sufficiency and alternatives. It is intended as a forum of practical ideas, shared knowledge, sources and as a guide to alternatives to unfulfilling consumerist lifestyles.

It's about putting a roof over your head, growing your own food organically, aiming for appropriate, renewable home energy systems and surviving — and thriving — in the city or the bush, with the inner changes which follow when you're in harmony with Nature.

- Each issue we donate a portion of the cover price to a community group involved in tree planting or forest conservation projects to help balance the use of the partly recycled paper used for printing Earth Garden. We would like to see all publishers pay a tree tax.

Contributions to Earth Garden are welcome — sharing information and experiences with other readers strengthens the network of Earth Gardeners. Photos, illustrations and diagrams are important when sending us contributions. Remember subscribers are sustainers — for subscription details see page 56.

We welcome advertisements appropriate to the aims and ideals of Earth Garden, but reserve the right to refuse ads at our discretion. Write to us for display rates.

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Dear readers,

Welcome to the autumn edition of Earth Garden. Putting this issue together has been reasonably relaxing because Judith, Greg, Karen and I all seem to enjoy our work immensely.

Several weeks ago Judith and I were driving along our bush track out to the highway near dusk. A young koala was bounding along, making straight for the bitumen some 80 yards away. Concerned, we stopped the car in front of her and tried to block her path. She sat up on her haunches and no matter what we did, she wouldn't turn around.

Finally she raised her left paw to bare her claws at Judith as if to say: "Better get outa my way!" Then she marched straight past us (our arms flailing uselessly) and up an enormous manna gum ten yards further on. This huge tree was obviously home — the bark had been well worn in many places, and she ran up a loose piece of bark to get over the tangle of blackberries and into a comfortable fork. How stupid we felt: the great well-meaning humans, with no idea what the koala was doing, just determined to prevent her from running onto the highway. Of course she had no intention of running onto the highway — all she wanted to do was get home, and we were stopping her!

It made me think about how often we must blunder around our environment either oblivious of Nature's patterns and rhythms, or convinced that our human way of dealing with the world is entirely correct. It's refreshing that schoolchildren are starting to learn enough about the natural environment to know that the Western human view isn't the whole picture.

This month we have a wide range of articles from many talented and practical people around Australia. For instance, I'm sure many people will enjoy Jill Redwood's article on shed building. There must be some primitive urge in many of us to just build a shed. The sheds Jill has built over the years on her farm in East Gippsland have an uncanny knack of looking like pioneer cottages built 150 years ago.

For many Earth Gardeners one of the first jobs on acquiring a bush block is to build a shed. If you haven't grown up in the country, renting first can be a sensible way to find out if you really can enjoy full time life in the bush. A 12 month lease on an old house will soon tell you if the bush flies drive you crazy, if you can't stand not having a milk bar or video shop within driving distance, and whether managing a finite water supply is too much of a hassle. It'll tell you if being "far from the madding crowd" actually agrees with your system.

You might discover that you don't actually need a TV. That being close to the elements by being conscious of rainfall and sunshine patterns, or wandering down to the hen house with the egg basket, are far more satisfying ways to spend your years on the planet.

Oops . . .

Cough, cough, shuffle, shuffle. On the cover of the previous issue of *Earth Garden*, we rather extravagantly claimed to be running an article by Peter Pedals on using multimeters. Well, to paraphrase Mark Twain, reports of this article were greatly exaggerated. We got a bit enthusiastic and the article is in fact in *this* issue of *Earth Garden*. Sorry.

One of my aims in the next couple of years is to make a regular weekly time to read books. Partly through my training in magazine journalism, I seem to be addicted to newspapers, so they take up my reading time. I have to look sideways and mutter stupidly when people talk about the latest, greatest Australian novel, assuming I've read it.

I find that making the time to daydream about what I want from life is a very satisfying way to measure how happy I am with my current existence. (I am fortunate to be extremely happy with life.) Every day on the train and in the traffic, I seem to see commuters who are just going through the motions of life. But as a carpenter I worked with once said to me, "You're a long time dead". One of the common attitudes of most Earth Gardeners I meet and talk to is that we seem to have a feeling that: "There *is* a better way, and nothing will stop me working towards that better way".

I sense that with many people caught in the 9 to 5 grind, the feeling is that when you're so busy with your nose on the grindstone, there isn't time or energy to take your nose off the stone and look around at your lifestyle. However, I think that *this* is the time when it's *most vital* to look around and decide whether or not you're happy with your lifestyle. I strongly believe that we make our own "luck" and "destiny", and that if we really want to change our personal circumstances, we can.

That may mean moving from a flat to a share house so you can start a garden after all those years of dreaming about it. It might mean making the break and establishing yourself on a bush block. Maybe it means finally buying that tiny cottage in a country town, because that's all you can afford at the moment. Or it might mean starting that business venture at the local market on Sundays to see if you could build it up so you can finally quit your main job.

This approach has sustained many Earth Gardeners over the years. In fact it's now 20 years since Keith & Irene Smith started *Earth Garden*. The June issue will be our 80th edition, and that's something we're proud of achieving. In the June issue we'll be releasing a very exciting book which I'm sure will delight many readers. In the meantime, we invite readers to send in any thoughts, recollections or memories you have about Earth Garden's early days. In this issue Jackie French remembers those days, and as she says, "It seemed an incredible coincidence that a magazine had come out that was talking about what I was dreaming of. But it wasn't, because love and soil and self sufficiency were what a lot of us where fantasising about then."

Many readers write to us saying that they've bought every copy since 1972. Maybe you could drop us a few lines about what it was like back then, what you were doing and thinking, and how you found *Earth Garden* useful. We'll publish your thoughts in our 80th edition.

I know that in 1972 I was pretty busy: I was 11 years old and thoroughly absorbed in football, and collecting empty bottles to cash in at the local milk bar!

On another positive note, we've been delighted to see that people have renewed their subscriptions early, and that we are gaining new subscribers all the time. It constantly amazes me how many people say to me: "Oh, yeah, I know *Earth Garden*. My brother/sister/mother/great aunt has subscribed for years."

Thank a lot, and happy reading,

Alan.

Earth People Write is an open forum. The views expressed in letters from readers do not necessarily reflect the opinions of _Earth Garden_. Letters are always welcome.

Home schooling a natural progression

Dear Earth Garden,

I have just begun reading *Earth Garden* as our family is considering a move towards the land and self sufficiency.

I have always read your letters section first and am struck by the friendliness, concern and sense shown by your readers. I knew it would only be a matter of time before a reference to home schooling was made, because once people begin to think and act independently of the mainstream, other ways of regaining autonomy will begin to surface.

We too became very disillusioned with conventional schools and became a home schooling family in 1991 and our only regret is that we did no do it much, much earlier. Once we seized control of our children's lives and learning, the next logical step is independence on the land. So I will continue to devour *Earth Garden* for all the information we will need and hopefully my next letter will be from a different address.

Susan Langguth, Mt Isa, Queensland.

Dear Alan,

Thank you for publishing such a worthwhile and enlightening magazine. My husband Bill and I live on 2 1/2 acres and try to be reasonably self sufficient. We have ducks, chooks, fruit trees and a vegetable garden. I have three bantam hens and it is one of the great joys of my life to raise baby chickens. Each new clutch is a source of wonder and we never become bored with seeing them.

We also have a big blue cattle kelpie cross (a most handsome fellow) named Jake. He is fascinated by baby chickens and will sit and guard them all day long and never attempts to harm them. I borrowed a copy of *The Hard Times Handbook* recently and look forward to owning my own. Yours sincerely,

Lydia Drinkwater, Medowie, NSW.

US tipi construction book

Hello everybody,

We bought our first *Earth Garden* last week (EG 78) and find it a very interesting and informative magazine. Regarding Alan Simpson's enquiry about building a tipi (in EG 78), there is an excellent book called *The Indian Tipi—Its History, Construction and Use* by Reginald and Gladys Laubin, published by Ballantine Books, New York (ISBN No 0 345 33554 6). Although I haven't read this book it seems very comprehensive. This book was bought in the USA by a friend, so it may be a bit hard to find in Australia. Yours faithfully,

Tony and Vicki Bourke, Narrabri, NSW.

Preserving wheat

Dear Earth Garden,

I look forward to receiving my magazine and now with my own subscription, I shall get them a bit earlier and not via my daughter. The world situation is so uncanny but I feel a bit better as I have learnt so much from *Earth Garden* I feel I am more prepared for the hard times ahead. Something I've not seen in the magazine is preserving wheat which is, I feel, rather important. I always keep some so I can make porridge, bread and other things from it. Once again, you're doing a great job and thank you.

Joan Thompson, Brookton, WA.

Dreaming of a valley of Earth Gardeners

Dear Earth Garden readers,

It is just over a year now since that memorable day when we finally found the special piece of land that had been calling out to us. As a counsellor and stress-management educator, I have always dreamed of building a small retreat centre, where people could come to rest and unwind and "un-stress" with meditation, bushwalks and healthy food. Don has dreamed of repairing a patch of the Earth and creating a garden. Both the dreams involve living simply and developing self sufficiency.

We had been searching for months in all the wrong places, and then one day we got it right. I expect there are many others who have experienced this feeling — as though some disembodied voice is hovering around, chuckling, saying "cold, cold, warmer . . . " while you scuttle around on the face of the map like a puzzled ant! (It also involves trying to give rational reasons to other people to explain what is wrong with all the perfectly good places that just aren't *it*.)

As soon as we drove into that little,

sunny valley in the foothills of the Victorian Alps, I knew it was the right spot, even before we actually saw the 30 acre block which was to become ours. Don says he actually knew the night before, when he talked to the farmer on the phone.

After a few visits with our tent, we bought a little caravan and parked it there and began to plant trees. Now we have built a shed. It will take another two years of working in the city and saving before we can finally move out there and start building the stone house on the hill that our minds' eyes can already so lovingly see.

Back in the gold rush days, our little valley held a thriving community of over a thousand people. Now there are just the peaceful hills and the green paddocks, and a tiny creek running through. No sign remains of what was once there except a little graveyard overgrown with periwinkles and a rectangle of bare earth where the old gold battery stood. Where once there was a little town with a pub and a school and a store, now there is just dreaming countryside with sheep grazing and a few cottages along the road.

The farmer from whom we bought our land still owns most of the area, much of it still divided — though only on paper — into small titles. In fact the titles map shows the outline of a little community, even though the people and houses and fences are long gone.

My fantasy is that as time goes on, a new community might arise, like a phoenix, from the ashes of the old one, as people are drawn to the spot the way we were. This time though, instead of the greed for gold, the spirit that draws us there is the spirit of renewal, of repairing, of giving back to the land the fertility which was stripped from it by our forebears who did not know any better.

Once again, the trees would return to the valley in their hundreds and the soil would grow rich again under our loving hands. With the ethos of caretaking rather than owning, of sharing rather than dominating, of respecting rather than exploiting, we could be rich from the gold of our labours.

We would love to see the whole valley populated by Earth Gardeners who feel the way we do about the land. What an energy that would create! If the idea appeals to you, write to us and we'll tell you where it is.

Marian and Don McCain, 162 Fitzroy Street, Fitzroy, Victoria, 3065.

Making the move

Dear Alan,

I wish to inform you of my change of address. Yes we have made the move. We are renting our small piece of paradise with a view to buying something in 12 months time, hopefully in the same general area. Please keep up the good work. *Earth Garden* has given us so many projects to put into practice and many more to come, I'm sure. Thank you for your magazine.

Yvonne Garnett, Deloraine, Tasmania.

Part of Earth Garden family

Dear Earth Garden,

Congratulations to all of you for a practical, innovative and pleasant magazine. I enjoy all of it especially Jackie French for her down to earth, minimum fuss way of gardening. I use many of her helpful tips and advice in our organic, no dig vegetable garden with good success.

The two acres we live on (my husband, three daughters and me) were over-grazed, cleared, impoverished land. But over the past two years, with lots of TLC we have managed to plant about 150 native trees and shrubs. We planted a pocket of many forest trees, mainly pioneer, closely planted (we get very strong winds from every direction). We have suppressed the weeds by carpeting vast areas (under and between trees) with lots and lots of newspaper and wheat straw as mulch. I find newspaper excellent mulch and a great way of putting back into the soil what was originally part of the ecosystem (as trees, before becoming pulp, then paper). Our trees have survived frost, wind and practically near drought (we are not even getting a wet season this year), and are doing well. Newspaper was also vital in our (ten metre by one metre) no-dig garden (organic of course).

I'd like to mention my full-hearted agreement with Simone Gray (fighting for vegetarianism in *Earth Garden* 75). I, too, believe that vegetarianism should be the norm rather than the exception. I know that is something you cannot force people to do but as Simone says, it has to do only with whimsical stomachs. If we listen to our conscience, we would only know too well that becoming vegetarian is not only healthier but a necessary step to take if we are serious about saving this planet. I believe that if only half of the world population would turn vegetarian, we wouldn't have any more starving people and we would probably reduce our collective debt!

Thanks also to all the people writing to *Earth Garden*. It makes you feel a part of a very large community of caring, loving down to earth beliefs. Love to all of you. Thanks also to Mother Earth for being so giving and forgiving.

Hari Oiu, Yorklea, NSW.

Dear Earth Garden,

We love your magazine, (we are subscribers). Our only complaint is it doesn't come out often enough. Thanks,

Ted and Leila Franklin, Tarpeena, South Australia.

Making contact in WA

Dear Earth Garden people,

We discovered *Earth Garden* at a newsagent three copies ago and we're very glad that such a great and informative magazine exists in Australia. It's very useful to us, because we bought one acre of b(r)ush in Tenterden (south of Granbrook) near the Stirling Ranges in south-west Western Australia. We plan to build a timber framed solar house in the shape of a pyramid, from secondhand materials. We want to plant local native plants and establish a vegie garden and small orchard according to permaculture principles.

At the moment we're still living in Perth, reading a lot to get the basics together for planning the project in detail. In the meantime we would love to get into contact with like minded people here in Perth and in the area between Katanning and Albany.

It would be great to exchange information and experience, and maybe get into some bartering (we're ceramic artists and mould makers). Now, one last question: has anyone any experience in 'alternative' firebreaks, for example planting (native) fire retardant tree and shrub species instead of clearing, and 'green' fences?

Any information and hints are much appreciated. Looking forward to some more great reading. Best wishes,

Ute and Christian Zimmer, Lot 1 Albert Street, Balcatta, WA, 6021.

Self sufficiency library with a move to the bush

Dear Earth Garden,

After an overwhelming response to our recent LAND LINES ad in EG 78 to rent out our Canberra home, we have decided to try our luck at finding somewhere for ourselves to live, at our new home in Western Australia.

We're ordering *Energy Works!*, the *Earth Garden Building Book*, and *The Healthy House Cow* in the hope that the information and ideas in these books will help reduce our dependence on the mainstream way of life.

We already have *The Hard Times Handbook*, which is a great source of inspiration, as well as a few of Jackie French's books which we are continually referring to for solutions to problems, and hints on how to make the garden more or less look after itself.

Many of our non-EG friends are surprised at the simple, cheap and healthy forms of pest and weed control we use.

It's not surprising that many people still reach for synthetic chemicals for their garden, when every nursery, supermarket and home handy store has shelves of the stuff freely available to anyone who thinks they need it.

The Green Cleaner *is another one of the more useful books I've come across. Thanks to all *Earth Garden* contributors for sharing your ideas. Happy living,

Donna and Randall Carman, Dongara, WA.

*The Green Cleaner *is a great little book, written by Barbara Lord, and published by the Australian Conservation Foundation (ACF). You can contact the ACF for costs etc, at 340 Gore Street, Fitzroy, Victoria, 3065.*

—Alan.

Grow plantations, and save native forests

Dear Alan,

Your idea of a "tree tax" is a good one. Trees are probably this planet's greatest asset, and, indeed humanity's greatest asset. Yet we in our wisdom(?) seem hell-bent on ripping out as many as possible as fast as possible, in the names of "progress" and "development". Those who object are branded as "radicals", the "anti-development lobby", "Greenies", and other names a lot less complimentary. Many who use these terms don't seem to see themselves as short sighted or narrow-minded.

We must have timber for a number of reasons. One answer might be greater emphasis on planting large areas of now desecrated land, with appropriate timber trees that could be irrigated with sewerage effluent. Schemes such as this would do much to reduce pollution of our waterways and oceans, and supply timber for future generations. Enough of this. You have heard it all before. Keep up the good work, and keep the *Earth Gardens* coming! Hope this finds you and yours well. So long for now. Yours faithfully,

Graham Hardy, South Townsville, Queensland.

The only way to create long-term jobs in our timber industry is to switch it immediately to a sustainable plantation-based industry. Our native forests are currently logged in a "capital-intensive", not "labour-intensive" way, driven by large woodchipping companies. According to the Resource Assessment Commission, an independent Federal Government body, in its two year inquiry it found no instances at all of sustainable native forest logging in Australia.

Contact the nearest branch of The Wilderness Society if you want more information. To add your voice to those calling for a halt to native forests woodchipping you can join The Wilderness Society, by ringing their national office in Hobart, toll free, on 008 030 641.

—Alan.

Wormwood repels snails

Dear Earth people,

Having read your magazine for the past year or so, it's time I became a subscriber, so here goes! Please pass on to all those readers who have trouble with slugs and snails that wormwood is the answer. It's very easy to grow and very hardy — just break bits off and poke it in. I've had very good results with it. For example the snails used to eat the gum and printing off the letters. Now the letterbox is surrounded by wormwood: no snails. I also have it in pots so I can move it around among the vegies — it works. Next: basil for fruit fly. Thanking you,

Joyce Ravell, Yeerongpilly, Queensland.

Passive solar house design

Dear Earth Garden,

In answer to the letter by June Plate of Jan Juc, Victoria in *Earth People Write* 78, about the lack of passive solar designed housing, I believe there is an unwillingness to accept change in housing techniques. I am a qualified carpenter/joiner and architectural draftsperson, currently studying for a Bachelor of Environmental Design at Tasmania University. I've had the chance to look at the history of housing since Christ, and come to the one conclusion: people suit themselves. The environment comes last.

It distresses me too, to know how the answer has always been there. Nature tells us the answers if we'd only follow what has always been laid down. Instead, we design towards a 'view', sacrificing a thermally comfortable home. Architects and designers have had to follow their clients' perception of 'their' home, without regard very often, to our environment. The design job hinges on this false perception.

What we need are designers willing to sacrifice jobs to 'educate' home builders and owners. If they (the clients) are heading in the wrong direction, then they should be told. From here I hope a breaking of 'mutual-ground' can be found between people and the environment. We need both to survive and live.

Mark E McFarlane, Bellerive, Tasmania.

Getting established

Dear Earth folks,

Finally we have made the move to our small farm. It is very exciting with a lot of work ahead. Avril, my wife, and I have just finished planting out lots of fruit and nut trees which we hope will form the beginning of a productive orchard. I am also selecting suitable fallen trees for use in building the chook house. A lot came down — including the tops of both our chimneys — during a severe storm in January. When that is done and the chooks are moved in I will start on the vegetable garden and herb garden. While all that is going on our 'girls' and 'boys' (our cattle) need looking after, because it looks like we will be busy for a while, but is is very satisfying to watch things progress. There have been lots of ideas from *Earth Garden* people that we have adopted. Many thanks again for a wonderful magazine. Yours sincerely,

Graeme Nichols, via Ulmarra, NSW.

Suburban Earth Gardening only?

Dear Earth Garden,

Being the proud owner of the first editions of this magazine, I hope that by now I have absorbed and understand something of the basic *Earth Garden* principles. However, I must admit to feelings of sadness and doubt when I read of people's desires to own a few acres of uncleared land to attain some degree of self sufficiency or spiritual enlightenment.

It isn't that I believe cities and suburbs are ideal places to be, for I have experienced country life for myself. I just wonder how long this country can survive and support people moving out into the bush. If we try to imagine another 200 years of this, will we eventually create more suburbs?

Given the mistakes made by past generations, who meant no harm, have we really learnt from them? Can we be certain that our concepts of conservation are the right ones? Even if we've got it right this time, and with the best of intentions, we cannot avoid making a negative impact on the fragile land which we purchase so idealistically, and dare I say, naively. The bush was never meant for permanent habitation, as we should have learnt from Aboriginal people.

Yet, weary of the mess created in our cities and suburbs, we move on to other permanent sites. Never a thought of helping to clear up what is, after all, white man's doing and ultimately our responsibility.

If I had an answer to this problem no doubt I'd go down in history. However, I do think that we city and suburban dwellers, instead of dreaming of greener pastures, should at least try and make that dream happen where we are right now.

Does anyone out there agree with me? If so, and if you have found a way to make suburban life sane and meaningful I'd like to hear about it. What prompted me to write this letter was the article in *Earth Garden* 77 about emu farming. Heaven help us, is all I can say, if people are moving into our bush with ideas such as this one! (I'm just waiting to read something on platypus farming and I'll never buy another *Earth Garden!*). Sincerely,

Janet Heywood, 20 Hilcott Street, Elizabeth North, South Australia, 5113.

Dear Janet,

The banner of Earth Garden *says "Self sufficiency and planet care for bush or city alternatives". Every one of those words has a lot of meaning for the articles and philosophy of EG. I don't happen to agree with some of the things you mention. I think it's entirely feasible to work for a measure of self reliance in the suburbs, but I don't publish only those letters I agree with, so rather than expounding my opinion, I'm also interested to know what other readers think.*

—Alan.

Gippsland owner builders?

Dear Alan and Earth Garden readers,

We have been reading your magazine for some time now and have been delighted with the hints and information we have gained from it (hence the subscription). For the past three years we have been learning all we can about self sufficiency and living off the land. We bought a house in a suburban area and realised then that we desired a larger "piece of dirt". We have since been working to pay off our house so that we can reach our goals, and have only a number of weeks before that dream is realised. Rummy has paid most of the house off on his own, on an average wage, as I have been at college for most of this time.

We have been practising self sufficiency as much as we can from our tiny piece of backyard. We have managed to produce our own fruit and vegies to support the two of us. This has helped to pay off the house as we have been spending only $25 a week on food over the past three years (and believe me, we have been eating like "kings and queens").

Since discovering your magazine we have been using your ideas on organic growing and spraying and have found this to be the only way to grow food. Now we are looking for an acreage in this area to join the many who have discovered an alternative lifestyle, going back to basics.

We would encourage *Earth Garden* readers to work toward paying off debts and commitments as we have, so as to enjoy the beauty and wonderful produce Nature can give. Also, we would like to

hear from any *Earth Garden* readers in our area (central Gippsland) who are owner builders in mudbrick or log cabin style housing. We are looking to do this and would like to know how people have coped with the local authorities and how plentiful resources are. Looking forward to receiving your magazine for inspiration, encouragement and handy hints for a good number of years to come. Keep up the good work and we think the "tree tax" is fantastic.
Rummy and Catherine Barlow, PO Box 1440, Traralgon, Victoria, 3844.

Repelling sandflies

Dear readers,

Ruth and John Grant, of Labrador in Queensland, asked in *Earth Garden* 78 about how to repel sandflies. We lived at Longreach for a short while and encountered sandflies — particularly after the rains. The locals recommended a splash of dettol in a bottle of baby oil. Apply it to exposed areas. It works. Regards,
S Laidlaw, Saddleworth, South Australia.

Alternative termite controls

Dear folk,

I am writing to ask for assistance in collecting material to help present a case against the mandatory use of chemical termite treatment, as required to obtain a building permit. I have multiple allergies to a wide range of environmental agents to such a degree I am an invalid pensioner and having difficulties with day to day life among the pollutants of a small town like Port Lincoln. I have a few acres of windswept hills out of town on which I want to build a low-allergy house. The local council require compliance with Australian Standard (AS) 2057 (chemical soil treatment), which would mean using chemicals that may prevent my using the building.

In my building application I included a copy of Robert Verkerk's fine book *Building Out Termites*, sub-titled 'An Australian manual for environmentally responsible control', published in 1990 by Pluto Press of Box 199 Leichhardt, NSW, 2040.* I intend to use his Minimum Termite Risk (MTR) construction in concrete slab on ground buildings, sections 1 through 12 starting on page 84. The building surveyor will not even allow my application to go before council unless I comply with either AS 1694 or AS 2057. The first of these does not apply to the type of construction I am using and the latter would prevent my use of the building. I am faced with having to put a case to a referee.

If you have an opinion on this issue, I would appreciate a letter of support and reference to cases or published material that would help me build my case. The chemical used would be one of the following. **a.** The organochlorine — Cyclodiene marketed as: 1. Chlordane, also as 800EC; 2. Heptachlor, also as 400 EC and HC 80; 3. Aldrin, also as Aldrex 60; 4. Dieldrin, also as Dieldrex 30. **b.** The organophosphate — Chlorpyrifos marketed as: 1. Dursban or Deter.

To give balance to my case could you also provide details of any cases of death or injury to humans as a direct or indirect action of termites in privately owned dwelling houses within Australia, that have come to your attention, please? Yours sincerely,
Gil Robertson, PO Box 1099, Port Lincoln South Australia, 5606.

*Building Out Termites *was reviewed in EG 76 by Bob Rich. A friend of mine who used to work for Friends Of the Earth suggested that when a council wants to force you to spray, try asking them for an indemnity against any health damage which may arise. Might make 'em think. 'Building Out Termites' also describes the new Basaltic Sand Barrier system which Bob Rich wrote about in EG 74.*
—Alan.

House cows and bibles

Dear sirs,

I have just moved to Tara, Queensland, and one of the first things my friendly neighbour did was to lend me several copies of your magazine. I had never heard of this publication but know it will surely become my "bible". Please send a copy of *The Healthy House Cow* and a subscription. I am taking delivery of two Jersey heifers tomorrow! I find life in the country wonderful, having just come from Sydney. I look forward to receiving the magazine and the book. Yours faithfully,
Helen Berriman, Tara, Queensland.

Central Coast Earth Gardeners?

Dear Earth Garden,

After finding a copy of *Earth Garden* at one of our local libraries, I couldn't wait to find time to read it. Once I started, I couldn't put the magazine down. At last a magazine and people enjoying getting back to basics. I purchased EG 77 at a local newsagent, and was told a few regular customers are readers also. Don't suppose anyone between Newcastle and the Central Coast is interested in dropping a line? Good work on a job well done. I'm looking forward to the next issue. Regards,
Donna Brennan, 23 Ravenswood St, Manning Park, NSW, 2259.

Queensland yurt builders wanted

Dear Earth Garden crew and readers,

I have read with interest all letters and articles and dearly enjoy the magazine. I have a real interest in building a yurt on our land on Karragarra Island, Moreton Bay. I would like to hear from anyone who has already built one on their land, and their views on construction and the final product. I would also like to see one already built, as it is really hard to visualise the effect. So anyone in south east Queensland who has built a yurt, please write so I can visit. Waiting eagerly for your reply.
Ria Hornsby, 18 Meridian St, Coorparoo, Queensland, 4151.

SUBSCRIBERS ARE SUSTAINERS

See page 56 for details

Biodynamic gardening — starting out

The study and practice of biodynamic gardening was a new and different venture for Stephanie. She had to embark on a lengthy learning process. This is an account of her early biodynamic experiences.

by Stephanie Falconer

Woodend, Victoria.

SEVENTY years ago some farmers in Germany went to Rudolf Steiner (the founder of anthroposophy) to ask his advice about some of the agricultural problems they were experiencing. Previously lucerne could be grown for 30 consecutive years on the same plot but now could be supported for only four or five years.

The farmers were concerned about the increase in animal and plant diseases, and there was a marked degeneration of seed strain and cultivated plants. In response to their questions Rudolf Steiner gave a series of eight lectures entitled 'Agriculture'. He presented "a comprehensive picture of the complex dynamic relationships at work in nature" and gave practical measures which would bring them into play. This was the birth of biodynamic agriculture.

Stephanie's biodynamic compost heap — looking fine.

Until a year ago my interest in gardening had little practical basis. I'd flipped through a few books and scratched around in several, mainly concrete backyards. Although I'd read about it, I did not understand compacted earth until I started digging it! The earth took on a new meaning. It was alive — but the little plot I was digging in was sick. That, however, didn't stop me from putting in everything I'd always wanted to grow, which was almost everything! Fruit and nut trees, herbs, vegetables, native and ornamental trees (both evergreen and deciduous), flowers and ground covers. I was aiming at low maintenance and enough food to be able to give some away.

I got tree greedy. The neighbours complained (so their children told me). I dug, composted and manured small areas of the block which was almost entirely grass and weeds. The compost was lousy — even the worms stayed away — and the vegetable patch turned rock-like by the end of summer. But I gained experience and observed as much as possible during the year.

Field Days — an inspiration

Half way through that year, the Council of Adult Education held a seminar on three aspects of Rudolf Steiner's teaching — biodynamic gardening, education, and the effect of colour on our lives. Having long been interested in other aspects of Dr Steiner's teaching, and knowing very little about biodynamic gardening, I decided to attend. I took my teenage daughter along for the ride.

Biodynamic gardening was enthusiastically and modestly expounded by Jenny Grinlington. There were such wonderful ideas, plus a handbill describing the Beginner's Field Day that was to be held in a few weeks. The ball had started to roll and I was pretty excited about it all.

The Field Day held no disappointments either — the warmth of shared knowledge, the sheer amount of information and the direct experience of seeing and helping to construct a huge biodynamic compost heap made the day an absolute thrill. I hardly noticed the 140 kilometre drive home. This lovely Earth. I was sailing on her and I wanted to do everything in my power to make her feel good.

I joined the Biodynamic Gardeners' Association. This entitled me to use the '500' (see footnote), something

Take a tip from Vic!

In 1942, when Hitler ordered a Messerschmitt 110 to chase Vic Calthorpe's mum up the High Street and into the nearest air raid shelter, he didn't know how close he was to ending one of Brisbane's best organised recycling programmes before it had begun. Despite successive raids, Vic's mother kept the pram and Vic one push ahead.

by Vic Calthorpe

Mt Glorious, Queensland.

LIVING through that ordeal of air raids for three years and the lean times that followed meant that recycling was not new to us — often our survival depended on it. As a growing school boy, I remember how the toes were cut out of my sandshoes to allow me to wear them a little longer. School uniforms were unheard of then.

I felt I had gained the equivalent of a PhD in recycling a long time before the 1990s arrived and it became fashionable.

The job as tip supervisor was first offered in June 1990. When I decided to accept, one of my friends said, "A natural choice"; the other said, "Yeah, but what does it pay?" I assured them both that I was taking the job for environmental reasons.

The tip area was very small then, consisting of a weekly Cleanaway bin, a Lifeline bin and a small collection of bottles. The tip is situated in the Mt Nebo/Mt Glorious area which contains a number of national parks. The tip takes a twice weekly collection of rubbish from these parks as well as the refuse from the local population of 800.

The first thing I did was to make myself known to the young couple, Tony and Lyn, who collected the rubbish from the parks. They agreed to empty their load onto the ground at the tip face so I could sort through it for recyclables. Our first attempt netted enough bottles to fill a 44 gallon drum.

Troglodyte attack

During my early months as tip 'supremo', the recycling area was subjected to attacks by 'troglodytes' who got pleasure from pushing over the full drums of glass, setting fire to the Cleanaway bin and throwing rocks into the Lifeline bin. I managed to get the local police involved and, although we are 25 km out in the bush, the patrol car would call in late at night to check. For this I was most grateful, and it seemed to do the trick. Occasionally 'attacks' still occurred but due to the police patrols and a mention in 'Vic's tip bits' (a monthly article that I write about the tip for the local newspaper, *The Mountain News*), the locals became more involved in 'our tip' instead of 'the tip'.

Once things had settled down, I had talks with the local council, forestry and bulldozer operator about enlarging the area so that the recycling area could include sections for scrap metal, firewood, paper, cardboard, some plastics and a place at the back where garden refuse could be burned. It was approved. We also made a covered area, Treasure Island, where we could put all sorts of useful items for perusal by scroungers and apprentice scroungers alike. It's proved to be the most popular part of the tip.

By August, I had compiled our first *Recycling info sheet*. Copies were attached to the September edition of *The Mountain News* so everybody knew what they could or couldn't recycle, and where it should be stacked or left. I placed several large painted signs and nailed them up high in prominent positions. By November, two deliveries of glass had gone to the recyclers in Brisbane, along with 55 kg of plastic milk containers. It was beginning to work!

To help keep the enthusiasm up, I gave a talk and

Mt Nebo recycling centre: a place for everything . . .

. . . and everything in its place, a legacy of Vic Calthorpe's.

demonstration on recycling to the youngsters at our local Mt Nebo school. That evening I gave the same talk to our resident's association (but with different jokes!).

It was about this time that 'The Sign Remover' struck! Every week the signs marked 'scrap metal', 'firewood' etc were to be found lying in the bottom of the Cleanaway bin and I would have to scale down into the bowels of the bins to retrieve the signs and return them to their proper places.

The culprit seemed to be committing his dastardly deed late on Wednesday nights. So after a good hot meal and rugging up in extra clothes I returned to the tip to wait in the cool night air and long prickly grass. After three hours of cold winds and total darkness, the only sudden movements I spotted were of nocturnal animals being surprised by a loony lying in their grass. It was 10:30 pm. I left.

I decided on Plan B. I would return at daybreak and catch the phantom sign remover.

At 7:00 am I was back, this time behind the trees and intrigued to see who it was that suffered from extreme 'signaphobia'. Soon I heard the whining and gear changes of the Cleanaway truck ascending the mountain. Within minutes the huge blue truck rushed into the tip and a stocky, bearded driver dropped down at my feet. It turned out that Brett, the driver, had a love for Mt Nebo ("Brings me wife up 'ere all the time") and, as he had not yet met the new tip keeper, took it upon himself to tidy up, including the signs!

By Christmas, we were taking loads of steel cans to be recycled in Brisbane; paper and telephone directories were being used on local gardens; and many locals requested flower pots and cardboard boxes.

Garden beds

I started building raised garden beds in the newly cleared area over the previously-open tip face. The soil was poor and dry but by building up beds using fallen leaves, a flock mattress, horse manure and heaps of wood ash brought in from the park's barbecue areas, the tip grounds flourished. The council was so impressed — a delivery of 30 native trees arrived with 100 leaflets explaining composting to distribute among the locals. With good rains, the grass cover returned, the flowers bloomed and even a crop of big red tomatoes flourished from the composted materials. The locals became more involved and brought along cuttings and even kept water up to the plants during the hot Brisbane days.

During the Christmas holidays, I tried to interest the local council in buying a five horsepower shredder for mulching the garden trimmings instead of burning them. Their reply? "If you're given one, all the other tips in the shire will want one!"

So, I went without holidays and brought a shredder out of my own pay. After that the number of flower beds increased and many people began asking about gardens and growing. In January, I presented an illustrated talk, 'Organic

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gardening on the mountain', to 70 people at our local hall. After this, recycling in the area really got into its stride, and updated info sheets were printed and distributed. The plastic recyclers were taking more types of plastic and another drum was added at the tip for clean jam jars for our local 'jammers'. The council donated more trees while the rains continued and the Cleanaway bin was now leaving on Thursdays only three quarters full!

By March, the fame and success of our tip had reached Brisbane. A reporter from *The Courier Mail* arrived to write a story on 'The Tidiest Tip in Town', complete with a picture of the Tip Keeper.

The March winds and hot weather were drying out the flower beds and grounds. With the help of Bob, we secured guttering and a downpipe to the Treasure Island area and built a tank stand to collect rainwater. A local resident donated a 300 gallon tank — the natives were pleased!

By now the local council had seen the error of its ways and purchased a new $45,000 shredder. It's taken to all the local tips on a regular basis to shred the garden refuse. I've arranged for the loads of mulch to be delivered to our school where it helps conserve their tank water and improves the soil in the landscaped flower beds. Every other load of mulch is left at the tip for the locals to take — no more burning off!

Now, one year later, we are printing our third updated recycling info sheet. I estimate we have recycled over 10,000 plastic containers, supplied tons of paper and cardboard for gardens, returned heaps of glass and saved a huge pile of scrap metal for another journey through the system. We have used ten Cleanaway bins less than last year. I have even been asked to give visiting school children a guided tour of our tip.

Finally, I am concerned about this beautiful blue planet and I'm deeply disturbed by the way we treat it and all its gifts. Surely we owe it to all the following generations to hand the place over at least in the same condition as we found it, if not better.

Sage — the saving grace

by Liz Sinnamon

Kenilworth, Queensland.

He who would live forever must eat Sage in May.

(old English proverb)

SAGE (*salvia officinalis*) labiatae originated on the northern shores of the Mediterranean. It has been cultivated for culinary and medicinal uses for hundreds of years in England. The Latin name, *salvere* (the genus) means 'to be saved' and refers to the curative powers of the plant.

Sage is most attractive in the garden with its long and thin, aromatic silver grey leaves. Young leaves are a pale green colour, then, as they mature, they turn grey. Bees are fond of the purple-lipped flowers, which start blooming on long stems in the autumn and sometimes in spring.

Cultivation

Sage can be propagated from seed. Sow in spring (or autumn in mild climates) in a prepared seed box. When seedlings have reached a height of ten cm plant them into their permanent position, leaving 60 cm between each plant. As sage will not tolerate wet feet or prolonged moisture, select a dry sunny position in the garden. Water plants only when young — adult plants do best with very little water. Sage can also be propagated from cuttings. After the leaves have hardened and become grey, cut long new shoots (about 15 cm long) and place them in small pots until roots develop.

Sage does not dry well, so for culinary use, it is best used fresh, however it can be dried for use as a tobacco substitute. Harvest just before the plant flowers, tie the crop in small bundles and hang these to dry in a cool airy place.

Cuisine

Sage is an essential ingredient in stuffings (with thyme and marjoram). It is also delicious in pea, bean and vegetable soups. Cook sage with onions, eggplant, tomatoes and cheese and egg dishes.

Medicinal

Sage is believed to restore energy and poor memory. It has a beneficial effect on the liver and can also be taken as a nerve tonic. This wonderful herb has antiseptic qualities and can be used as a gargle for the mouth and throat. It is also believed to help rheumatics and assist conception.

Cosmetic

Sage tea can be used to darken hair and is still found in some commercial hair tonics to prevent hair from going grey. It can also be used as a cleansing lotion for the skin.

Companion planting

Sage and rosemary aid one another in the garden. Sage helps to repel cabbage butterfly, and if grown among cabbages it will improve their flavour.

The energy efficient umbrella — a loft roof

As a follow-up to his article 'Loft building - the environmental alternative' in *Earth Garden* 78, Peter Lees explains how loft homes can give you greater energy efficiency, just through the nature of their design.

by Peter Lees
Daylesford, Victoria.

LOFTS can offer a huge saving on natural resources by reducing a home's 'ground spread' and using the roof space. Making a home more compact (this does not mean cramped), makes it easier and quicker to build, a lot cheaper and far more energy efficient. Single storey homes are less efficient because their greater surface area attracts unwanted heat in summer and loses desirable heat in winter.

Loft homes, with less wall surface, collect less unwanted summer heat and, because of the steeper roof pitch, any infiltrating heat rises to the ridge, well above the occupants' head and comfort zone.

Through-vents, in the loft, from one gable to the other will encourage a breeze through the home (simply by leaving upper doors open), to drive out heat collecting at the ridge. Unwanted heat is easier to vent from loft homes because they tend to be more compact than single storey dwellings, which are generally longer and have more cross walls to hinder the free flow of air.

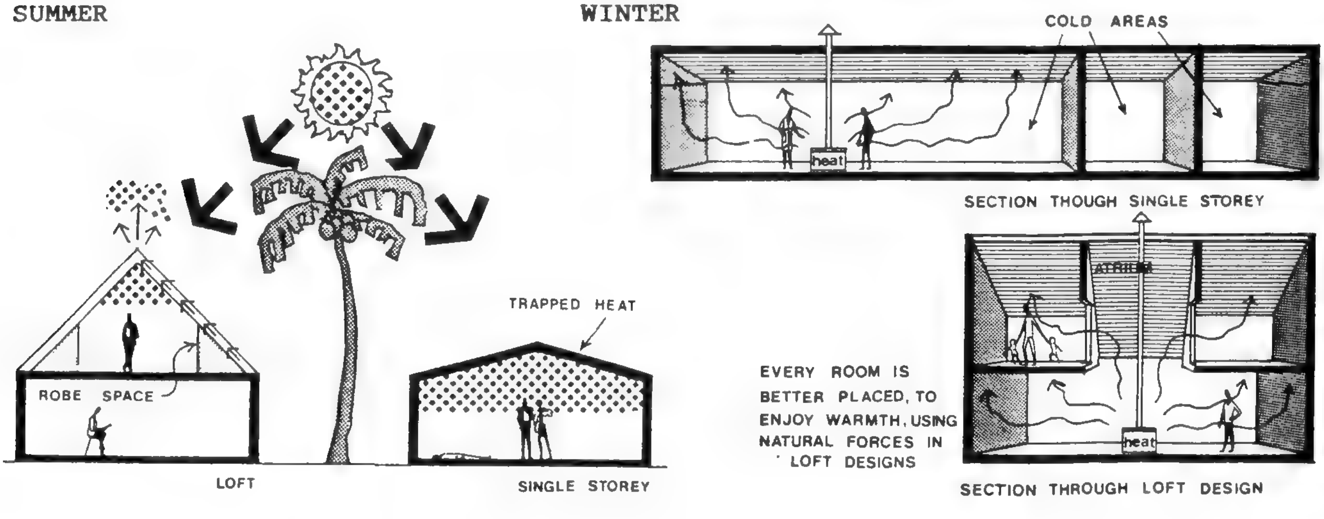
Ceiling linings

Single storey buildings generally have flat ceilings so the invading heat within the roof space of a shallow pitched roof is comparatively closer to the occupants and, even if the ceiling is insulated, some heat will permeate. Also heat coming through the large expanse of side walls will be trapped below the insulated ceiling, forcing hot air even closer to the occupants.

Loft homes however need only have insulation at the roof plane level so infiltrating heat soon rises to the ridge. A cathedral ceiling in a single storey house generally has exposed rafters. This means, however, that, in most cases, crammed between the ceiling lining and roof is the roof sarking, insulation, roof battens and cladding. On a hot day, the sun will force heat through these compressed layers and directly into the home. The heat then has nowhere else to escape.

Insulation (normally 75 mm thick) performs best in its uncompressed state, but this style of roofing installation means the insulation is squashed to the thickness of the roof batten. Roof battens generally are 75 mm x 38 mm, so what is the point of buying an insulation batt 75 mm thick if you are going squash it down to 38 mm? This is not an energy efficient way of lining a roof, and could only be improved by spending more money on thicker roof battens.

A loft ceiling can be effectively lined to hide the rafters giving you plenty of depth to lay the insulation, plus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WINTER
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EVERY ROOM IS BETTER PLACED, TO ENJOY WARMTH, USING NATURAL FORCES IN LOFT DESIGNS
SECTION THROUGH LOFT DESIGN

an air gap, underneath the sarking, to convey any unwanted heat up and out through the ridge capping. The steeper the pitch of the roof, the better this works. The other advantages of lining a ceiling this way are: that your lining is less likely to suffer water damage during construction; that you can easily (and legally) hide electrical wiring; that you get better illumination across the ceiling plane (rafters create shadows); and that cross wall framing and cladding is easier to install (the lining does not have to jump up and around the roof framing).

Cold climates

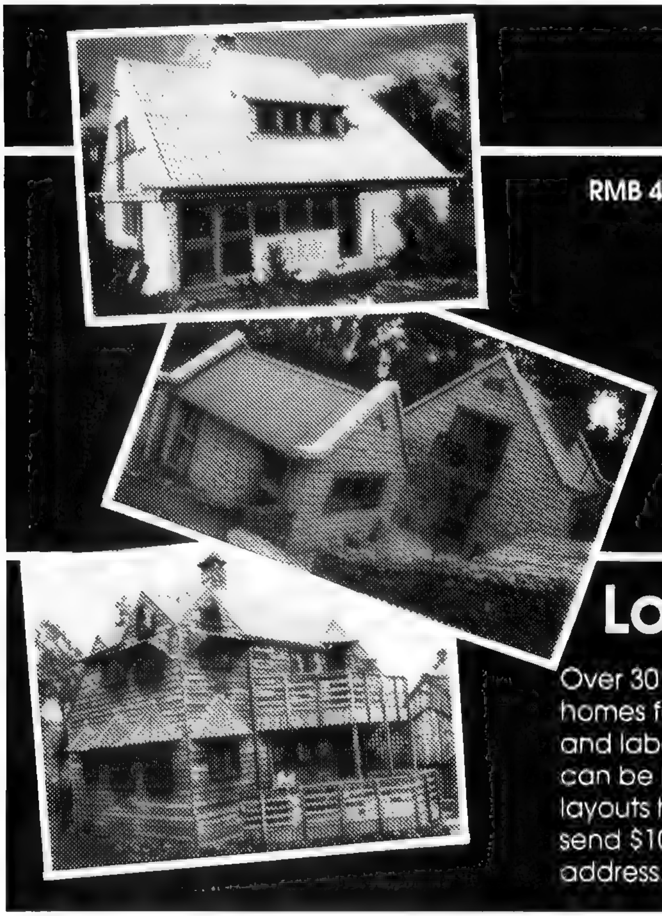
All this sounds great for the tropics, but what about in cooler climates? Loft homes originated in cold climates so they work extremely well. The same principles apply in winter as in summer. Because loft homes are more compact, all the living zones are closer together on the ground floor. There is less external wall surface to absorb and draw heat away from the inside to the cold outside. With rooms upstairs, the upper void is reduced — living spaces can be designed to become more cosy.

A central heating source, such as chimney or solid fuel heater, can cope more easily with heating rooms that are not so spread out like those in single storey layouts. Occupants, being never too far away, gain immediate radiant warmth from the heat source. During the day, the heat rises to warm the upper level. Keep the doors of the rooms up here closed for most of the evening, or until you want the heat that has built up to enter the room. This way, the house gets heated more efficiently, through natural forces. In a single storey house, you have to try to oppose Nature by forcing heat laterally through the building's axis.

The cold extremities of a single storey home can be heated only at the cost of greater energy consumption, (by integrating ducted heated, for example). To force heat down to the occupants from, say, a large open expanse of a single storey cathedral ceiling requires a ceiling fan — more energy consumption. We all know that heat needs to rise so the fan has a constant battle against Nature.

A well designed loft home is comfortable and cool in the summer and cosy and warm in the winter, particularly if it is built from appropriate materials, such as mudbrick. Ask anyone that lives in one — I know, I design them, build them, and live in one. I wouldn't choose to have anything else.

•ANYONE wishing to know more about loft homes, can send $10 for Peter Lees booklet of plans. It features over 30 plans and photos, with explanatory text and price indications. You can telephone Peter Lees on (053) 487650, or write to him at RMB 4322, Daylesford, Victoria, 3461.



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Architect & Builder

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Fight the flea invasion

Fleas are annoying, disease carrying insects that breed profusely, especially during the warmer months. They are not fussy about their short term hosts and you may find yourself scratching along with Deefa dog or Pat the cat.

by Avril Crispin

Rylstone, New South Wales.

THERE are a variety of commercial drops, washes, powders and flea collars available for your pet, but there are other natural, gentle, and in most cases, pleasant smelling alternatives to combat these nasty pests.

An agreeable and effective deterrent is to soak a rope in oil of pennyroyal and loop it around your dog's neck. Remember to re-soak it about every two weeks. Alternatively you could rub a few drops on its coat.

A lot has been written recently about the ability of garlic to prevent numerous ills, so if you and your dog are brave enough, you may like to try rubbing garlic oil on his coat and on the exposed parts of your body. That should keep the fleas (and everything else within 50 metres!) at bay.

A better idea is to sprinkle a small amount of garlic powder on your dog's food, or better still use odourless garlic capsules. Try one a day for small dogs, or two to three a day for larger dogs. However, I would not recommend this cure for your fastidious cat.

Subtle approach

A more subtle idea is to attach some green eucalyptus seed pods to your dog's collar. The softer they are the better. Replace them when they lose their smell. You could also rub a few drops of eucalyptus oil on the dog's coat.

A pleasant smelling method is to spray your dog with a strong solution of rosemary and sage steeped in boiling water. This can also help to keep bugs away from tomatoes and potatoes in your vegetable garden.

It is widely accepted that fleas attack animals deficient in thiamine (a B group vitamin). Research advises us that brewer's yeast is rich in thiamine and has the added benefit of promoting a shiny coat and in some cases can cure chronic skin problems of cats and dogs. Sprinkle a small amount of the yeast on your pet's food every day — half a teaspoon for cats, one to two teaspoons for dogs.

If the problem is more than the odd flea here and there and you find them leaping up at you from the carpet, more drastic measures are called for. The following strong smelling but effective deterrent will require you to vacate your home for the weekend, or even up to a week if possible.

Remove your pets and everything you are taking with you from the house and close all the windows. Sprinkle naphthalene flakes over the floor, taking care to get in corners and along skirting boards. Use one box for approximately five square metres. Once you've finished, remove yourself quickly because the fumes can be overpowering.

When you return, open all the doors and windows and leave the pets outside while you clean up. If you use a vacuum cleaner, be warned that the smell will linger in the bag, but if you don't mind the smell, you can put a small number of flakes in the bag for everyday use.

There is another method of eradicating fleas that I have heard about, but have never attempted: cut off strips of sticky tape and catch them with it.

This last method may leave you with a severe case of exhaustion and eye strain. If so, make a cup of tea and sit back and relax. At least Deefa and Pat will appreciate that you tried.

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Orders: Earth Garden, RMB 427 Trentham, 3458.

I'd wanted to do for a long time. I now also had enough information to make my own biodynamic compost — and a page of instructions, to boot! But before I could do either of these things, I had to have the right equipment. Here I was lucky.

A strong right arm

I had rainwater from our tanks for diluting the '500', a wood-fired stove for heating the rainwater, the right container (copper or brass) for the dilution process, and a strong right arm!

About two months passed before I was fully prepared with all the ingredients, time and help necessary to build the compost heap. Cow manure (about a cubic metre), straw, hay, old grass clippings, old and fresh weeds, bracken, thistles, dolomite and an old Fowler's Vacola thermometer were gathered. Preparations also included selecting the best spot in the garden for the heap — good drainage (a slight slope), north-south axis, and summer shade (but not under water-drawing eucalypts). I chose a spot about three metres from the trunk of a big, old plum tree so that its branches would shade the heap from the hot afternoon sun. Finally, with a fork, I broke up the grass and soil beneath and beyond where the heap would lie.

The mixing and building of the heap required half a day and several helping hands. All the ingredients were mixed thoroughly with forks into one pile and soaked with rainwater, then heaped onto the prepared spot over a frame of inverted 'books' of hay. The finished shape measured nine feet long, five feet wide and just over four feet high. It had a slight indentation in the top for summer watering (in winter the top should be convex). We covered the heap with straw and a few planks to windproof it.

With the compost made, I could order the solutions 502, 503, 504, 505, 506 and 507. These contain the herbs yarrow, chamomile, nettle, dandelion, oak and valerian respectively, and were to be inserted at certain points into the compost (see diagram). I also ordered the 500 which would be sprayed over the entire half acre block. Before spraying, I had to make sure that it would actually make contact with the soil, and therefore be of maximum benefit. The lawn was mowed (not a regular task around here) and all the vegetable and flower beds were weeded. We cleared the ground around the trees (especially the fruit trees) of any grass or weeds. Later I planted herbs and dahlias in these bare patches!

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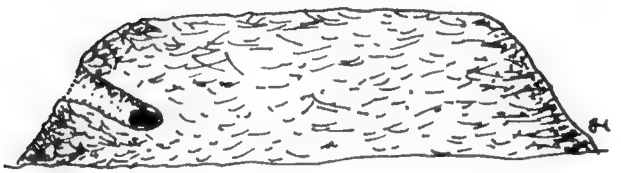
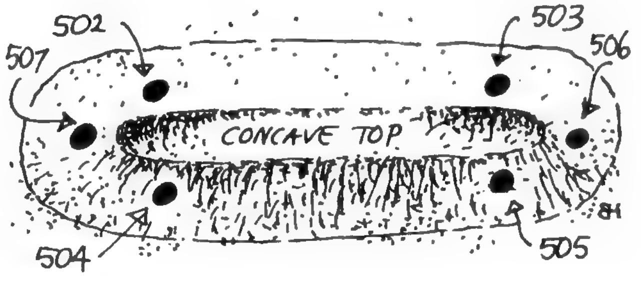
Faking it!

Ideal conditions, that is the soil still moist before prolific spring growth, had been about a month before. We were having an extremely dry spring, so I faked a moist one using half a tank of rainwater the night before the preparations were due to arrive. When the preparations arrived I was ready to insert them into the three day old compost, which was already quite warm. We punched holes into the heap

Side View



Top View



with a broom handle. Each small ball of herbal compost activator had to be surrounded by old compost or good garden soil. It was inserted into the five holes at regular spaces, on a 45° angle towards the bottom of the heap. The 507 (valerian) had to be stirred by hand into a gallon of fire-heated rainwater. The container must be free of all chemicals or anything which might interfere with the homeopathic potency and final effect of the mixture. The warm water and the liquid 507 is stirred in one direction creating a vortex, then the direction is reversed creating chaos and then another vortex. This process apparently draws in cosmic forces and holds them.

The 507 has to be stirred like this for 20 minutes. I sat on an old log facing the sun and relaxed. I looked up at the sky and saw the sun was surrounded by an enormous circle — I would like to have known what that meant.

After the 20 minute stir, I poured half the mixture into its hole and the other half over the heap. I filled up all the holes and replaced the straw covering. The compost will be ready sometime between three and six months when nearly all the material is digested. It takes on a putty-like consistency and the ingredients are unrecognisable — the worms, however, are still active.

Now I was ready to use the same method as for the 507 to prepare the 500, except I needed one and a half gallons of water for the half acre and the mixture had to be stirred for an hour. It was important to start the stirring after 3.00 pm (dew time) and preferably in overcast, windless conditions. I was very grateful that we had just those conditions. Everything went extremely smoothly — my two-year-old daughter played happily and the phone remained silent until the last flick of the brush. The dip and flick brush method of spraying is a crude but effective way of spraying the 500 finely and evenly over the land.

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In tune with the vortex

After stirring the 500 and the water — clockwise-vortex-anticlockwise-chaos-vortex-clockwise-chaos-vortex and so on — for an hour, I picked up the brass bucket and sprayed every inch of the ground. It didn't take long but felt marvellous. I felt an enormous relief to have done something for the Earth, and the root systems that depend on her. Even though I don't fully understand all the mysterious processes involved in this healing, I can already see results — just as I have with the homeopathic treatment of my children when they've been sick. According to Steiner, plant life "... could never be diseased in a primary sense since it is a product of a healthy world. It suffers rather from diseased conditions in its environment especially the soil."

This Earth lives, breathes and gives life and I think learning about biodynamics helped me to understand what someone else once said: "... out of death comes life, surely the compost is the living example of this".

Footnote: The 500 is created by stuffing cow manure into a cow's horn and burying it about 18 inches below the surface through winter. It is then dug up and diluted by mixing in the special way described.

Manure contains astral (nitrogen carrying) forces and ethereal (oxygen carrying) forces which haven't been used to enrich the material substance of the animal's body and are consequently available for soil enrichment. The cow's horn, according to Rudolf Steiner, has the property of 'raying back' whatever is life giving and astral, and because it is surrounded by earth these radiations are poured into the inner horn. All that is ethereal and life giving is attracted to the horn from the surrounding area.

These forces are contained in the diluted solution which has such a tremendous life giving effect when sprayed on the Earth. As Rudolf Steiner said, "But if you once resolve to combine your ordinary manuring with this kind of 'Spiritual manure', if I may call it so, you will soon see how great a fertility can result from such measures".

Further reading

Agriculture by Rudolf Steiner. *Biodynamic Agriculture Introductory Lectures* by Alex Podolinsky. (Both available from Rudolf Steiner Bookshops.)
Biodynamic Resource Centre.Melbourne. Telephone (03) 844 4478.

Rudolf Steiner — a man for all seasons

by Joan Salter
South Yarra, Victoria.

FOR many people, the name Rudolf Steiner conjures up a picture of biodynamic produce in health food shops — fruit and vegetables, nuts, grains, cheese and the like. For others, the name represents a particular form of education — Steiner schools; or a holistic approach to health and healing using chemical-free medicaments accompanied by artistic therapies — anthroposophical medicine. And there is his involvement in the art field, embracing a form of movement known as eurythmy, and a 'wet-on-wet' technique of painting with water colours. There is a form of banking called 'ethical investment'; an Institute of Social Development; Goethean scientific research (there is a Goethean laboratory in Sydney); and a special form of education for the mentally handicapped — curative education, maternal and child welfare work (established in the Gabriel Baby Centre in Melbourne).

Steiner's capacity to make scientific research in fields beyond the range of natural science became the source for all of these activities. It was no ordinary form of research. It revealed to Steiner the realm of non-sense-perceptible reality which permeates and sustains the material world as seen by human senses. To reach this realm, Steiner used the power of concentrated thinking. In one of his books he writes, "Man will only come to knowledge when he makes thinking his starting point".[1]

Steiner was able to investigate this non-sensory realm with the precision common to all forms of scientific research. Furthermore, he expressed his findings in his books and many lectures with clarity, using concepts which could be understood by most people.

Born in Austria in 1861 (he died in 1925), Rudolf Steiner spent his first 40 years preparing for this work. It was only at the beginning of the century that he started the intense activity of writing, lecturing, and giving indications for the development of the many of those activities listed above. It is impossible to look at these activities in detail in an article of this kind. Each subject demands its own article for the reader to gain any real understanding, so it is only possible to give an overview here.

In all disciplines that directly affect the human being, such as education (for the normal child and the mentally handicapped), medicine, artistic therapies, early childhood development and home care of the young child, Steiner based his indications on knowledge of the three-fold nature of the human being — physical body, psyche (soul) and spirit (self or 'I').[2]

For instance, when bringing up a child at home, it is not only the body and soul which must be cared for, the parents must also create a nurturing environment that will allow the human spirit to find an appropriate way into Earth consciousness. *The Incarnating Child* by this writer, sets it out in detail.

Path to consciousness

In Steiner education, the child is seen as a microcosm of humanity's path to consciousness. The educational methods allow the child to experience various historical periods of our species' development— the Celtic, Egyptian, Greek, or Viking periods, for example. Through this we can

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see one of the laws governing universal evolutionary processes — the law of recapitulation.[3]

Steiner education for the mentally handicapped recognises the integrity of the human spirit and differentiates between the essential individuality on one hand and the inadequate body and/or disturbed soul on the other. Steiner gave a whole course of lectures on curative education, and many others on educational methods suitable for today's normal child. These lectures are available from Steiner and other bookshops.

Anthroposophy

In December 1923, Steiner founded the Anthroposophical Society with its centre at Dornach in Switzerland. He described anthroposophy as a path of knowledge leading from the spiritual in the human being to the spiritual in the universe.[4] It could also be called a 'philosophy of Man', just as 'anthropology' refers to a 'science of Man'.

Steiner's far-reaching cosmology presents a vast picture of the evolving consciousness of humanity and planet Earth.[5] While this is profound in its implications, it has practical applications for most affairs of life — the fertilisation of the soil, the curriculum in Steiner schools, a deeper understanding of Old and New Testaments and so on.

What Steiner found to be the spiritual reality underpinning humanity and our planet can form the basis of our outlook and attitudes, and of all life's endeavours. This will help us to live in health and harmony with our fellow creatures, human or otherwise.

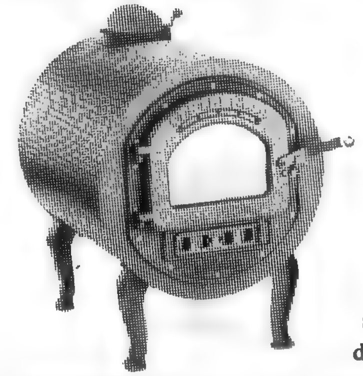
This is Rudolf Steiner's message for mankind — today it is urgently relevant.

References

1. *Theosophy* Chapter 4; published by Rudolf Steiner Press, London, 1970.
2. *Theosophy* Chapter 1; (see above).
3. *Occult Science* Chapter 4; published by Rudolf Steiner Press, London, 1969.
4. Anthroposophical Leading Thoughts (No 1); published by Rudolf Steiner Press, London, 1973.
5. *Occult Science* Chapters 4 and 6; (see above).

STEINER BOOKSHOPS in Melbourne can be found at 'Books for the Journey', 105 Cotham Rd, Kew; phone (03) 817 1763; or 'Celebrations', 10 McAdam Square, Croydon; phone (03) 725 5933.

Joan Salter is the State Secretary of the Anthroposophical Society, Victorian Branch.



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Father's day gifts from all the family

Father's Day can be made memorable with a selection of gifts from the entire family. Some of these gifts can be made by the children, while others will require input from adults. Even the youngest family members can help in the wrapping and card-making.

by Marion Boetje
Brooweena, Queensland.

FOR Father's Day you can fill a basket or reusable container of suitable size with a selection from the following handmade items. Suggestions for the presentation of the gifts are included, too.

Malt bread

This is known in our family as 'sticky bread' and has been described by a friend, somewhat to my indignation, as 'good working cake' – meaning it's heavy. It shouldn't be heavy and is, in fact, delicious and nutritious and will keep a long time.

Firstly, sift 250 g of self raising flour into a basin, add 50 g of sultanas and mix well. In a saucepan, place 150 ml milk, two tablespoons of golden syrup, two tablespoons of malt extract, and one level teaspoon of bicarbonate of soda. Heat gently and stir until the mixture is frothy. Make a well in the flour and add the milk mixture, giving it a good stir. Place the complete mixture in a greased and floured loaf pan and bake at 180° C for 60 to 65 minutes. Turn the loaf onto a cake cooler and leave until cold. Store it for 24 hours before cutting. To serve, slice thinly and spread with butter.

For a gift, wrap the loaf in cellophane. Tie on a ribbon and label.

Soaps and hand scrubs

These soaps can be prepared by youngsters as they are made from already-cured, old soap scraps, not new soap that carries a danger of caustic burns. Only warm water and minimal measuring skills are required. So save all odd scraps and grate about 300 g for each recipe.

Spicy soap-on-a-rope

Pour half a cup of warm water over 300 g grated soap. Leave for 20 minutes. Work in one dessertspoon of powdered cinnamon and six drops of scented oil (sassafras, cinnamon, clove or caraway). Cut a metre length of cotton or acrylic string and knot the two ends together. Mould the soap around the knotted ends forming a football shape. Leave in a warm place to dry. After three days, smooth the surface of the soap with dampened hands and leave it to dry out thoroughly. Gift wrap in cellophane, gathering the edges of the paper around the string and tie on a ribbon and a label.

Spiced eucalyptus soap-on-a-rope

Pour a third of a cup of warm water over 300 g grated soap. Leave for 20 minutes. Work in one tablespoon of powdered paprika and one teaspoon of eucalyptus oil. Mix in well and then follow the same method used for spicy soap-on-a-rope.

Hand scrub

Pour half a cup of warm water over 300 g grated soap. Leave for 20 minutes. Work in a quarter of a cup of finely ground pumice. Cut a 35 cm length of cotton or acrylic string and complete as for soaps-on-a-rope. This scrub is handy for hanging beside the laundry or outside wash areas.

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Jams

Jam-making should be left to the adults as hot sugar substances can be dangerous to handle. Youngsters, however, can have fun designing labels and making colourful cloth lid covers.

Apricot rum conserve

Gently boil 250 g dried apricots in two cups of water and a quarter of a cup of lemon juice for 30 minutes or until tender. If you are using whole, dried apricots, cut them into halves first. Add 500 g of sugar and stir until it's dissolved. Boil rapidly for 15 minutes (or until the conserve will set on a cold plate). Remove from heat and when the bubbles have subsided stir in one tablespoon of rum. Pour the conserve into hot, sterilised jars and seal when cold.

Make a circular cloth lid cover and tie down with a ribbon over the lid. Label the jar and place in the gift basket accompanied by a small loaf of rye bread.

Spiced nut mix

Children can make these spicy nuts, but should be supervised at the oven.

Mix 100 g of macadamia halves, 100 g of blanched almonds, 50 g of sunflower seeds with one tablespoon of vegetable oil. With the oven at 180° C, lightly brown the nuts, stirring as necessary to prevent uneven browning. In a basin, place a teaspoon of curry powder, a pinch of salt, a teaspoon each of soy and Worcestershire sauce and half a teaspoon of mixed spice. Add the nuts, mix well and cook for a further five minutes. Leave the mix on paper towels to cool thoroughly and then store in an airtight container.

For gifts, place the nuts in an attractive jar and make a label.

Coffee liqueur

This could make Father's Day truly memorable, but maybe an adult should make it!

Combine a cup of sugar, a cup of water and one tablespoon of instant coffee powder in a saucepan. Stir over a low heat until the sugar is dissolved then bring to the boil and simmer for three minutes. Allow the mixture to cool to luke-warm and add two teaspoons of vanilla, a cup of brandy, and 1 1/2 tablespoons of rum. Pour into a sterilised bottle, seal and store in a cool, dark place for at least ten days.

Gift wrap by pouring into an attractive bottle and stick on a decorative label.

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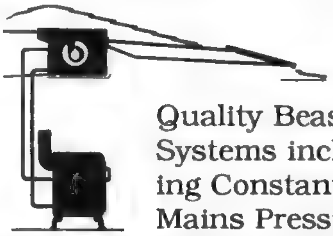

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Alternative technology at work

In the beautiful green and russet hills of mid Wales lies a place which has been an inspiration and a source of knowledge for many people. It is the Centre for Alternative Technology, at Machynlleth deep in the heart of Welsh-speaking Wales.

by Sophie Masson

Guyra, New South Wales.

"HOW much time have we left to learn that success is ceasing to be measured by the acquisition of electric gadgets and larger cars? How much time to discover that wealth and happiness are easily found by those who live close to the Earth and in harmony with the laws of Nature?"

These are the words of Gerard Morgan-Grenville. It was 1972, at the height of the oil crisis, yet his words are as powerful and relevant now as they were then — possibly more so, with our present knowledge of pending ecological disaster.

He had realised a place was needed to demonstrate that our reliance on fossil fuels was misguided and unnecessary, and so came about his braindchild, The Centre for Alternative Technology, in Wales.

The Centre opened to the public in 1975, and has gone from strength to strength, becoming renowned throughout the world as an educational centre *par excellence*. The past two years have seen its first share issue, the opening of time-share cabins, and the completion of its hydro-operated cliff railway.

No more scars

A model of land reclamation, the Centre is situated in a disused slate quarry, but now the scars of use are healed over with trees and vegetation. Slate has been used imaginatively throughout the centre for buildings and paths, giving an impression of both beauty and function.

Solar, wind, and water power — all in action at Machynlleth in Wales.

Many kinds of alternative power, organic gardening and small scale animal farming can be seen at the Centre. All displays emphasise hands-on, so that visitors can use and see how hydro, solar, and the other kinds of alternative power work.

The Centre specialises in devising and displaying power systems appropriate for the Third World, systems that will make people's lives easier, but not adversely affect ecological systems.

Different ideas on housing, from the low-energy, self build house to 'Britain's best insulated house', with energy saving features like 450 mm insulation and double-double glazing, can also be seen at the Centre.

The self-build house, intended for people with little or no knowledge of building, features a post and beam frame with pre cut panels for the walls. It's claimed that it can be built in as little as four months. Of course, it is a familiar sight for Australian eyes used to wooden frames and fibro sheeting!

Although I found the building unattractive because of the pre cut panels, it featured some excellent energy conservation ideas by using passive solar techniques, solar water heating, good insulation, and a single wood-burning stove. The thick, double brick walls, draughtproofing, lavish use of insulation — including double glazing over double glazing — and energy efficient lighting are all excellent features that can be seen in the Centre's Energy Conservation House. To incorporate such features would raise the cost of building the house by about ten percent but heating bills would be 90 percent less!

Food growing

The gardens and food-growing areas in the Centre are interesting and very attractive with displays of soil food, fish ponds, herb beds and a community greenhouse built in a poly tunnel. I picked up some good ideas on making liquid fertilisers. For example, leave 15 kg of comfrey in 160 litres of water for one month. Then top up and use after two weeks — quantities can be adjusted accordingly.

One of the Centre's geodesic greenhouses.

There were good examples of weeds as food: dandelions in salads and for bees; ground elder in salads and soups; feverfew for curing migraine headaches. Obviously not all the European-based information is relevant to Australia, but much of it can be adapted for use here.

Alternative energy

Even with all these other interesting displays, the most important features of the Centre, and of course the reason for its name, are the displays of alternative energy sources.

There is a biofuel system, which uses wood gas to drive an electrical generator, with one kg of charcoal needed for each kw/hr of electricity.

There are many examples of passive solar systems — solar walls, solar roofs, and a solar trickle roof (which uses solar-heated water to warm a building), as well as 'active' solar hot water systems. A solar pump powers a fountain that provides an excellent display, that visitors can work themselves.

Water power features in many displays. A hydraulic ram is used to pump water into a wildlife pond; a water turbine drives a generator producing one kw of electricity; and a wave machine demonstrates how wave power can operate a lighthouse.

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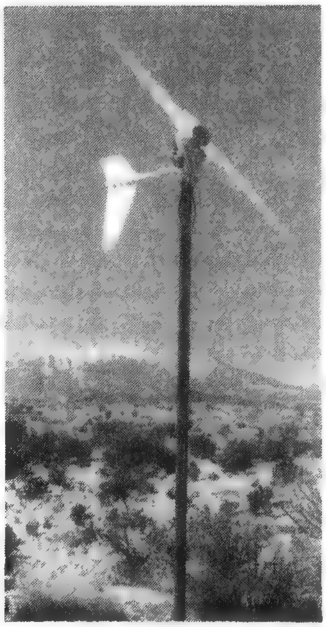

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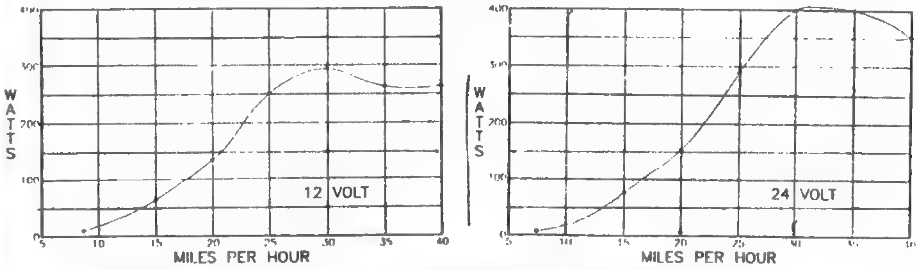

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To maintain a healthy mix of energy sources in the Centre, windmills are also part of the scene — from the large Polenko machine, which provides 15 kw of electricity, to the homemade Savonius, and the bicycle wheel battery charger. Much to our children's delight, there was also a wind-operated rotating swing, which sent them spinning!

In fact, wind power provides 40 percent of the Centre's electricity needs, while water supplies 55 percent, and solar power five percent (which really is not a surprising mix for wet, windy, temperate Wales!).

In 1981, the Centre set up an electronics company, Dulas Engineering, to manufacture appropriate technology products such as simple air recirculators, low power, computerised data-logging systems and stand-alone wind/diesel generating plants. The company has received many orders from developing countries, including Mongolia and Eritrea.

Three Rs

There is, not surprisingly, an emphasis in the Centre on the 'three Rs': reduce, reuse, recycle. And what they preach in the Centre they also practise — composting toilets, using sewage as fertiliser, the composting of all food wastes, the use of efficient animals such as bees, goats, chickens and pigs, a partially-sunk food store, land reclamation, organic gardening, and the creation of wildlife habitats.

There is an entirely natural, adventure playground, featuring wood shavings, timber from trees the Centre has grown specially, and ships' ropes found on local beaches!

As well as all of the above, the Centre is also a working community. A third of the 30 staff live on site and as a community try to live by alternative technology principles, powering their houses from renewable sources and getting as much as possible of their food from on site. All decisions are made as a co-operative. Volunteers are welcomed at the Centre and can stay from a week to six months.

If you are interested in more information or in buying from the Centre's excellent catalogue, *Buy Green by Mail*, write to: The Centre for Alternative Technology (or, in Welsh, *Canolfan y Dechnoleg Amgken*), Machynlleth, mid Wales, SY20 9AZ, UK.

You can get some great information sheets, as well as plans for the bicycle wheel wind generator; the solar controller; the Savonius windpump; a solar water heater; the Cretan windmill; a waterwheel; a clip-fin solar panel; and the self-build house. A broad range of other publications is also available through the catalogue.

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The 3RD NATIONAL ENVIRONMENT EXPO is held in conjunction with the 1992 HIA HOME-MAKER SHOW and is a must attend for those committed to the environment.

For further information contact:

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Season by Season

Earth Garden's regular organic gardening column,
written by Jackie French

Twenty years on — memories and dog turds — eating roses — why you should leave your garden in a mess for winter — and more.

— Twenty years on—

I bought my first copy of *Earth Garden* 20 years ago. It was the second issue and I back ordered the first. It seemed an incredible coincidence that a magazine had been produced that wrote about what I had been dreaming of. But it wasn't really a coincidence, because a lot of us were dreaming about love and soil and self sufficiency then.

Earth Garden came out as I tried to sell my first lot of avocadoes from the orchard we were caretaking. I had also started my first vegetable garden. I planted carrots and beans. The carrots didn't come up at all; the beans grew three inches then were eaten by bean fly. I tried tomatoes next. At least nothing ate them, but they didn't grow much either. I didn't realise you had to feed your plants if you wanted them to feed you.

So I studied everything I could get my hands on — gardening books, Department of Agriculture pamphlets and research reports. Then the avocado trees began to die.

It was *phytophthera cinnamomi*, a root rot. All the avocadoes in the area were dying. It took six months of research to discover that what the Department of Agriculture had been saying was good for the orchard — feeding with sulphate of ammonia, overhead watering, ploughing and weeding — produced exactly the right conditions for the root rot to thrive.

It was a good introduction to farming and gardening to learn that what is officially 'good' isn't necessarily best. (Now, 20 years on, no Department of Ag would give the advice they gave me then. Many of the the 'radical' farming ideas of 20 years ago are now commonplace.) By then I was hooked. I knew that growing things and studying growing strategies was what I wanted to do with my life.

That was only part of the dream.

The other part was mostly cliche and involved a hand built house, a cow in the front paddock, an acre of vegetables and a couple of kids by the creek, a pantry full of jam and bottled apricots and a husband drying his gumboots by the wood stove. And we'd be self sufficient.

Well, that marriage failed (and gumboots stay outside). I've decided that cows are decorative but someone else can do the milking and the butter and cheese making. I've even given up bottling, except for a few tomatoes. Bryan and I are still finishing the house and, like most owner builders, will probably still be finishing it in another two decades. We seem to add a room every 18 months.

Self sufficient

My son and I were self sufficient for a while, but from poverty, not choice. My income covered rates and preschool fees and that was about it. Actually, we lived and ate quite well, but it was a strain that.I don't want to have to face again. There was always the worry about what would happen if I got sick. And then I did. A bed of ripening corn and tomatoes aren't much use if you don't feel up to harvesting them.

I've been lucky, I think, in the people I've known over the past 20 years. Jean, the elderly neighbour down the road, was in her seventies when I was in my early twenties. She had the sort of classic cottage garden that's grown from seeds and cuttings, not from pots from a nursery. She'd learned 'self sufficiency' back in the depression, except it wasn't called self sufficiency then — it was just what you did to survive.

I remember the first meal I had at Jean's: vegetable soup (from the garden) and roast Indian game, boiled new potatoes, golden beetroot and three sorts of beans and fruit salad for dessert with cream from the cow on the hill. We had sponge cake for supper, made with eggs from the ducks that ate the snails under the roses (the roses grew from her brother-in-law's prunings), more cream and passionfruit and fresh raspberries — all this grown by an elderly woman in a garden about the size of a normal suburban block.

Jean grew almost all her own food then. She sold illegal butter, cream and eggs and garden surplus and pressed cuttings and seeds on me that now form the basis of my garden. She's moved now, to a tiny unit in town.

Jean taught me that it's easy to be *almost* self sufficient, all you have to do is plan and plant. It's the next jump that breaks your back — trying to grow it all.

I know that we could live on what we grow here or even from the bush around us if we had to. I've gone through the stages of making our own rope from wonga vine fibre, my own perfume from the garden, or my own shampoo and dyes and paper. Sometimes we drink our own tea or our own 'coffee' (of one sort or another). It's fun to do it sometimes. It gives you confidence to know you can if you have to. It makes life richer. But not when you've trapped yourself and can't afford anything else.

Smudge the Wombat

I think the other person who taught me most was a wombat. His name was Smudge. We shared a clearing together about 15 years ago, me living in a shed while he had a couple of holes nearby. I spent a lot of my nights following him.

I learned to watch the bush with Smudge. I learned to question gardening and farming lore. I began to wonder why the broom and blackberry invaded our orchards but stopped at the fenceline and didn't penetrate the bush; why a wild peach tree kept fruiting year after year, yet the books said you needed to prune to get a crop; why an unfertilised wild apple tree fruited in half the time it took the cultivated ones in our orchard; how a hillside of helichrysums flourished without the soil being dug to receive their seeds. I learned to pattern the way I grew things (and to some extent the way I lived) on the bush around me and not on the standards that I'd been taught. Smudge also taught me how to sit back and watch the bush and just enjoy the early morning sun.

Thoreau advised distrusting any enterprise that needs new clothes. I learned to distrust anything I couldn't explain to a wombat. This isn't over simplicity. Everything can be reduced to its effect on people, animals and the world around. Sometimes reducing things to wombat terms makes you see them more clearly.

Our's wasn't a one way friendship. Smudge gave me the bush and I taught him about music. Smudge was the only wombat I've met who liked music. Anything melodic and he'd sit on the doorstep, but he hated the Rolling Stones. The tape was a birthday present and I only played it once. Smudge marched down to the creek and didn't come back till the vibrations stopped.

Changing dreams

Dreams change — just like *Earth Garden* has changed. I'd hate to be stuck in the dreams I had 20 years ago and in 20 years' time I'll probably smile at the dreams I have now. The dreams haven't changed radically, they've just evolved.

What else have I learned?

Perhaps just to look at things differently, as though the windows have been washed, and not to take for granted the images of the good life — or the good garden or farm — that I grew up with. I've learned that things change; that humans are subject to the same laws as lizards and fruit fly and ants, though the time scale is slower and that no matter what we do 'this too will pass'.

I've learned to put my hands on the soil and feel the rhythm of the world. If it's just my pulse that I'm feeling, it doesn't matter.

Biological not mechanical

I've learned to rely on biological, not mechanical, growing systems wherever possible. I no longer dream of having a tractor in a neat shed, or of getting bulldozers in to clear the blackberry. Things that grow will change, like dreams. Machines don't. If you buy a tractor you've trapped yourself into farming in the way that tractors make possible, the same as if you buy a rotary hoe or mulcher. Composting gets rid of weeds more cheaply than mulchers and with less energy, it's just slower. Goats eat blackberry and the new rust introduced by CSIRO should do the job even faster. No dig farming and gardening methods give better long term results than rotary hoeing.

Rely on Nature

Grow creepers and deciduous trees instead of relying on air conditioners; grow your own fertility and mulch, instead of carting it in; keep chooks or geese or wombats as mowers; rely on natural predators for your pests instead of sprays — not just because these things work better in the long term, but because they feel better. You hold hands with the world instead of trying to dominate it with metal. Growing things change with circumstances. They adapt. Machines don't. I suspect we'll all need to adapt as much as possible during the next two decades.

What else?

Keep planting. Most areas are badly underplanted — a relic of English parks with neat grass and a few trees and scattered vegie or flower beds. Imitate the bush instead, where most of the soil is covered by at least three layers of growth — grass, or creepers, shrubs and trees. Plants are the best investment you can make. Banks give you something like 12 percent interest? A young tree will double every year, crop for a century and give you seedlings into the bargain.

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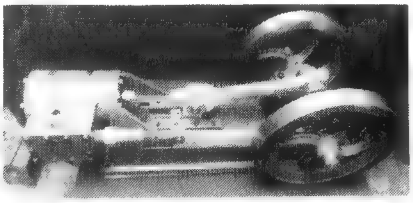

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Grow what you need

I have also learned that you don't have to farm to make a living in the country, in fact farming the land you buy may be a bad idea. Sheep and humans and cattle are the real weeds in Australia. There are too many of them, and they destroy too much. It's better to cherish the land and enjoy what it is than try to change it. Just keep a small intensive patch to grow what you need and harvest the rest like a wombat or Aborigine, giving as much as you take away. If you need to make your land productive sell a few fence posts, coppice firewood, or farm emus — or tourists. Don't feel that you have to farm it to justify your land.

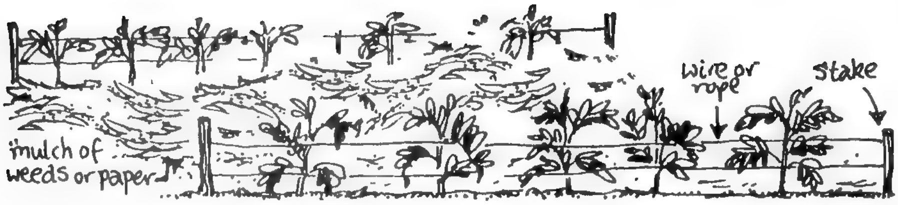
I learned that growing your own doesn't have to be hard work. Our garden supplies most (not all) of our fruit and veg for about ten minutes work a week (look back over old *Earth Gardens* for the methods). Most of the work we do in our gardens is unnecessary. Weeding just makes bare space for more weeds, pruning just means we have to prune next year and add more fertiliser to make up for the growth we've taken. Most of the fertiliser we give our plants disappears into the water table and does no good at all. Most mowing, trimming and tidying are for the neighbour's benefit, not the garden's. Somehow our culture has decided that it's the job of humans to care for growing systems, rather than just let the gardens take care of us. It's the Adam and Eve fallacy — now we're out of the garden of Eden, we don't dare let ourselves back in.

Money or love

A big thing I've learned over the years is *not* to try to be self sufficient. Self sufficiency was a nice dream. It led me to a good life, though not the one I expected. I learned that I love to grow things, even if I don't make my living selling them, and even if I don't grow everything I need. I know that we can live by farming, if we have to, but experimenting and giving stuff away is much more fun. I always felt a bit like I was selling my kids whenever I got money in exchange for peaches or avocadoes. Money can never compensate for things you love, it seems much simpler just to give them away.

Go as far along the self sufficiency road as you feel comfortable with. When it stops being fun, stop. That way you won't lose the joy of growing things.

Anyone who has watched a child's face as they fill a basket of oranges, or as they disappear to spend an hour in the raspberry beds, or has let a child watch the progress of a seed as it becomes a vine and sprouts large melons (then let them pick it as all their own work), will know there is something basic and very good about growing your own. This is, after


wire or rope
stake
mulch of weeds or paper

all, what life's about: food and shelter, life and death, and growing things. There is no better way to contact this than in a garden.

I, like all humans beings, am part of the Earth. To work it, watch it, and live within its rhythms gives, for me, the deepest satisfaction.

Autumn in the garden

So much for the reminiscing — there now follows a few practicalities as an apology for rambling.

Autumn is a deceptive time in most gardens — the air is still warm but the soil is starting to cool down as nights get longer. This is the time to stick in fast growing crops that will still give you a harvest by winter and cold resistant crops to keep for spring and early summer. It's a good time to plant. Things grow as fast in autumn as they do in spring. There really is an 'autumn flush'.

Try sticking in lots of cabbages of different sizes. They'll mature at different times from early winter through to early summer. I've tried sticking in several varieties of cauliflower, but they never mature when they are supposed to. I'm picking caulies now that I planted a year ago (they got dwarfed next to the silver beet and decided to sulk for a while), yet some in the same batch were ready in three months.

Plant some broad beans once the weather starts cooling down and the aphids aren't breeding quite so fast. Early broad beans are susceptible to aphids, but you can just nip off the tops, steam them and eat them, and that will be the end of the aphid problem.

Early broad beans may mean an early winter harvest, instead of waiting till spring to eat them. We rarely eat broad beans in spring, mostly because we're harvesting asparagus and artichokes at the same time. Autumn broad beans seem to fit into our eating patterns better. Even if we don't get around to eating them, they are an excellent source of mulch. Nothing that grows in the garden is ever wasted.

Plant broad beans very closely together, so they can protect each other from the frost which will nip off the flowers. As soon as the weather warms up the plants will start setting fruit again. Try planting them against wire or between long lines of string so they don't fall over. This makes picking easier and the extra light will encourage more flowers. Spread newspaper or weeds between the rows — they'll rot down for spring and leave you a weed free spot to plant carrots.

I planted our broad beans last year between rows of old corn. This helped to support them and shielded them from light frost. When they were finished I trampled them down, threw on some sprouted potatoes, then scattered on a bit of hay. We're eating the new potatoes now. I also threw potatoes into the piles of woody kiwi fruit prunings that we finally got around to hacking back this year. I threw hay on top of the prunings too and they are also yielding a good crop of spuds. The heat from the decomposing hay had helped break down the prunings.

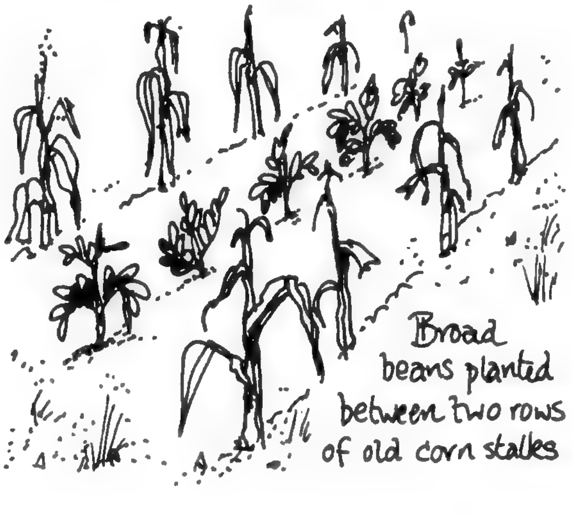
Early onions, like flat white, can be planted now, and the ground prepared for later main onion plantings. Onions don't like weeds because they grow slowly and won't take competition — so make sure the ground is clear. The easiest way to do this is dump on top of a weedy patch something like a pile of newspaper (wet, so they don't blow away) or weed mat, old blankets or even a pile of weeds. Take them up six weeks later and plant your onion seedlings.
Other autumn crops include:

Kale, or borecole — with dark green curly leaves, very easy to grow.

Chinese mustard — with thick succulent stems, very fast growing and easy to germinate. It will keep producing when your silver beet has slowed down and it shouldn't go to seed till late in spring.

Collards — a leafy cabbage-like green traditionally cooked with bacon grease but better just steamed with butter. These can be planted from spring through to late autumn. They are incredibly hardy. You just have to remember to eat them and not wait till they form a heart because they won't.

Edible Chinese chrysanthemum — harvest the leaves after 35 days and eat them steamed or in soup or stews. They're a bit bitter unless you put a box over them for a few days before picking. You can get the seeds from Minara Pty Ltd, PO Box 69, Aspley, 4034. Ask for their catalogue, as


Broad beans planted between two rows of old corn stalks

they have the best range of oriental vegetables I've come across, including large green radishes, yam bean root, and a variety of snake beans.

Corn salad or lambs lettuce — a traditional European salad green, also used for cooking. It should be grown in autumn rather than spring. It's less bitter in cool weather and won't run to seed till spring. It is slightly too strong for many tastes. Cover the plant with a large pot or box for a week before picking to lessen the strong flavour.

Swedes — can be grown in temperate to tropical areas now. Don't confuse home grown swedes with the rank disasters available commercially. Swedes should be picked small and young — unless you want to feed them to the cow — and they lose their strong taste if grown in cold weather. Sow thickly and eat as small as possible or they'll taste like stock food.

Carrots, leeks, beetroot and silver beet — as long as the soil still feels comfortable on your wrist they'll germinate, but they won't grow much till spring and then they'll jump to seed, leaving you with spindly vegetables that tend to toughen, but that's better than no leeks or beetroot at all.

Peas — try dwarf sugar snap, a very quick maturing pea. Eat the whole pod like a bean.

Snow peas — eat the flat pods.

Turnips — need cold weather for sweetening. Plant mini varieties now so they mature before bolting.

Watercress — by the tap (keep snipping so it doesn't go to seed).

Readers in warm and subtropical areas might still try quick yielders such as:

Tampala (Chinese spinach or leaf amaranth) — you'll get edible leaves in about six weeks of warm weather.

Chinese cabbage — about eight weeks to maturity, but they're good even if they bolt without hearting in spring.

Cauliflowers — early and late varieties will tend to crop about the same time in spring if sown now.

Kohlrabi — if you don't expect a frost for the next ten weeks. These big cabbage flavoured roots are incredibly easy to grow. Try them cooked or grated raw.

Red mignonette lettuce — if it bolts in spring don't worry, you've just got free seed for summer planting.

Cos lettuce — pick off the leaves and eat them as they grow.

Broccoli — it may not grow much now but it'll be ready sooner in spring.

Plant more peas or broad beans for 'green manure'. Slash them in late winter or early spring just as they start to flower to provide mulch and fertiliser for a 'no dig' garden.

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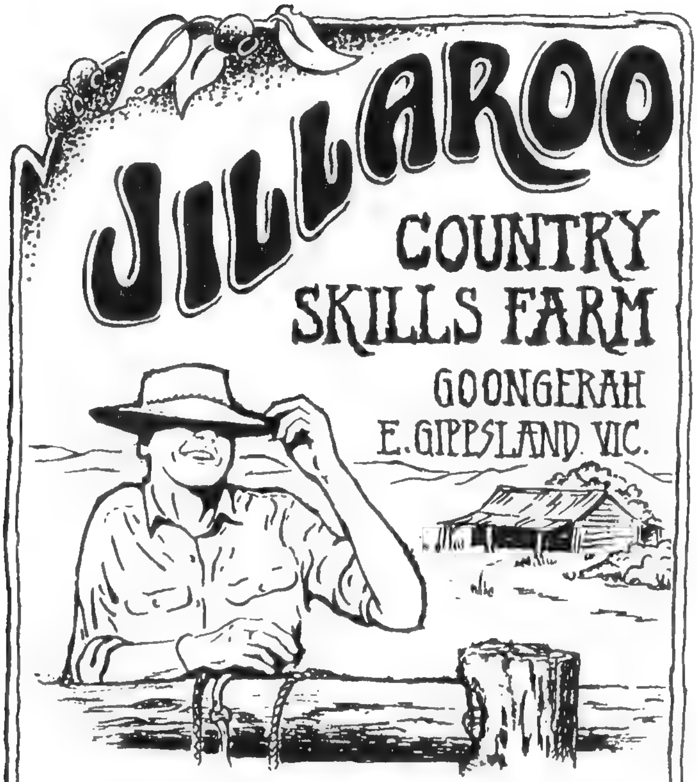

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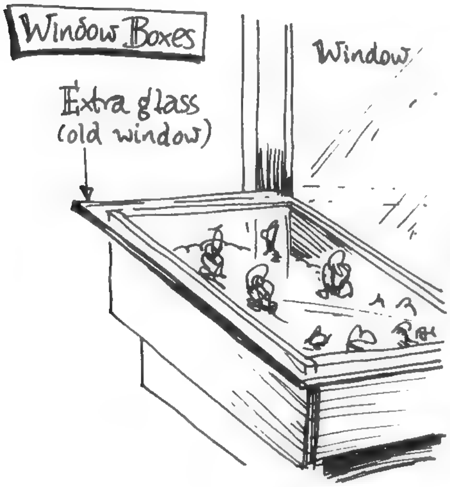
Quick gardens

If you want to maximise the heat in your garden to keep your vegetables growing as the cold increases, try putting down paving near the house. Leave spaces between the paving blocks and plant them out. The heat will be reflected from the concrete during the day and will store heat at night. I kept tomatoes growing during winter this way last year, when we got down to minus 8° C in the orchard. It didn't do me much good — the tomatoes were red, but tasteless because they didn't get enough heat.

I'm becoming addicted to 'paving gardens'. They don't get weeds; they grow fast and are just outside the back door when you need them. I've started to grow most of our every day staples in the paving by the back door. (Mind you, I am running into opposition from those who believe paving is for skateboards or a good place to leave the gumboots.)



Grow plants in pots that can be taken in at night, or try making small glasshouses or 'cloches' out of old windows or plastic stretched over frames. Or have a go at tyre gardens (see previous *EGs*).

Double windows are a variation on window boxes, but enclosed in glass instead (see diagram). They're a good way to grow frost sensitive crops through winter and they add to your house's insulation, though, if successful, they can cut down on light. The glass front can either be wedged in with pegs, or, more expensively, built on sliding runners.

A variation on this method can be used to grow climbers such as pepper, passionfruit and chokoes in cold climates. Plant them in a large pot, and keep the pot inside, but drill a small hole in a window frame on the sunniest side of your house and train the vine through it. The vine will clamber up the warm wall and, even if the leaves are slightly damaged by frost, the plant will regrow, because the roots will have been protected from freezing.

Bedding down your garden for winter

Don't clean up

Messy gardens survive winter better.

Leave those corn stalks, the radish going to seed and the patches of weeds. The weeds probably won't seed or run about till spring and they'll protect the soil, help insulate your plants from cold and frost and stop other weeds from growing.

Gardeners who recommend spending the peaceful winter months 'tidying up the garden' have a fetish for straight rows and nice chocolatey, bare earth. This may help their spirits but it won't help the garden. Gardens are wasted on people with a passion for sweat and blisters. Gentle pottering and a bit of contemplation are more effective than maniacs with mattocks.

Don't mulch

Mulching protects roots from freezing by insulating them, but it will also increase frost damage to the leaves above. So you have a choice — frozen roots or frozen leaves. Instead of mulch, plant ground covers — marjoram or dyers camomile or very early bulbs — around your frost sensitive plants to provide living insulation.

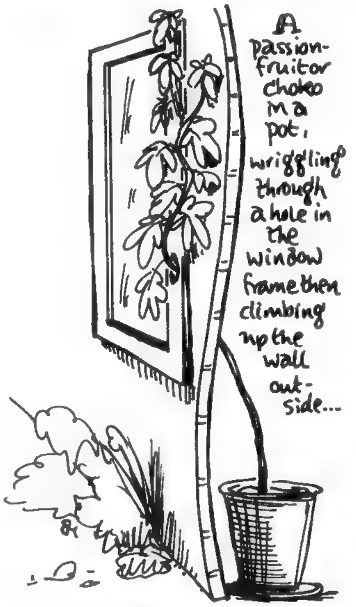
Plant thickly

A better alternative to mulch is just to plant very thickly, so that the leaf cover both insulates the roots and other plants around. I keep masses of foliage turnips, radish and parsnips in our garden over winter (far more than we need) just to help protect the other plants.

Crowded broccoli and silver beet plants in our garden continue to produce long after the 'spaced' ones have stopped.

Seed saving

This is the time to think about seed saving. One carrot gone to seed can save you about $10 in seed next spring; a handful of beans left to dry on the vine might mean you don't have to fork out money for bean seed. (Avoid hybrids unless you enjoy lotteries.)


A passion-fruit or choko in a pot, wriggling through a hole in the window frame then climbing up the wall out-side...

Carrot and parsnip that you are saving for seed be can be transplanted into a less used part of the garden if they are going to be in the way where they are. We now have a 'seeding patch' where the odd bit of parsley or tomato or carrot can be left to spread its seed heads in peace, without taking up half the garden or falling over the lettuce seedlings and sheltering snails.

Fully grown plants transplanted now will quickly go to seed. Stake them well because they'll get top heavy when the seed heads form and may fall down, causing the seed to rot or sprout prematurely. Stick an old stocking over the seed head if you're afraid the seed will drop before you notice it's ready.

Harvests

In colder regions autumn is the harvest season and a frantic bottling time. Here most harvests are in summer. Autumn harvests are gentler: late apples, late pears, pomegranates, medlars, quinces. The fruit is full of summer sun without that fermented sweetness that crops get in high summer.

This is the time for gathering up whatever will be spoiled by the winter cold — green tomatoes to ripen on newspaper indoors or make into green tomato pickle, immature cucumbers and tiny pumpkins to slice and stir fry or hang by their vines in the garage so they keep ripening for a few weeks. Dig up tomatoes and capsicum bushes with as much soil as you can, and try potting them for a continued crop, or hang them from a garage roof, like the vines.

Tomatoes will be glutting now, and melons and okra ripening. Test melons for ripeness by sniffing them (a fruity smell indicates ripeness), and by tapping them to see if they sound hollow. Pick pumpkins when the stems turn dry near the base of the pumpkin, then let them 'cure' or harden on a hot roof or dry concrete for a week or two. This will help to stop them rotting in late winter.

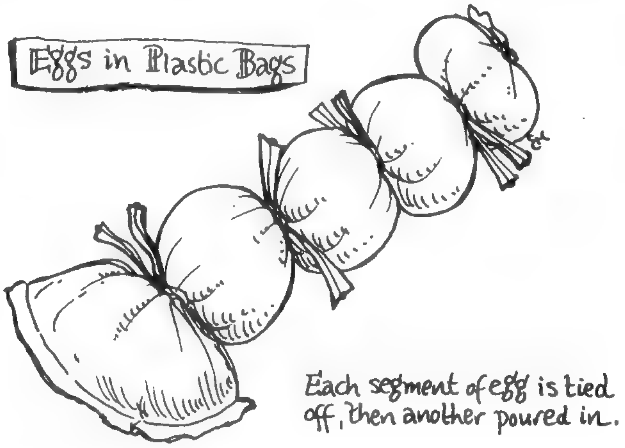
Pumpkins that aren't quite ripe will still be sweet, but they won't store well. Tiny pumpkins should be eaten like squash, with a tomato and garlic sauce or cheese sauce to add the flavour that isn't there.

Don't dig root crops till you're going to use them — they'll be sweeter for the cold. If the ground is likely to freeze, mulch over them, or shelter them with tall, potted plants. I use a prolific climbing geranium in pots to protect small vulnerable plants.

Eggs

Now is the time for the glut of eggs before the shortfall. Chooks don't lay as well when nights get shorter. You should still get some eggs, though — if you don't then the hens may be too cold. Keeping warm uses up a lot of a chicken's energy, so this is a good time to make sure the hen house isn't draughty. Insulate it a bit, but don't use anything that could harbour parasites, like old blankets. An extra lining of tin that creates a gap between outer and inner lining works well — or use a thick layer of banana passionfruit vine or other evergreen rambler as insulation. A bit of work now could mean you get eggs throughout winter.

Jean used to give her chooks a hot bran mash on winter mornings — just hot tap water poured into the bran and mixed with other scraps. She also made sure they had extra protein to give them more energy for winter. She hunted out snails from crevices and rat's nests and poured sour milk into the mash and restaurant leftovers she had swapped for fresh eggs. Her chooks went on laying right through winter.


Eggs in Plastic Bags
Each segment of egg is tied off, then another poured in.

Freezing eggs

You can freeze egg whites and yolks separately, or beaten together. Yolks or whole eggs need a pinch of salt or sugar to stop them thickening when they are frozen.

The easiest way to store them I've found is to whip them up and pour a little into a freezer bag. Tie the bag well and repeat till it's full (see diagram). Use different colour ties for salt or sugared eggs so that you won't use the salty ones in cakes or the sugary ones in a cheese omelette.

If you rub your eggs in clarified butter (butter melted and strained of any impurities) or vaseline, they'll keep for about a year in a cool dark place, without freezing. Make

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sure you use warm water to wash the eggs — cold water will make the contents contract drawing in water through the porous shell, and the egg will go bad. Don't scrub or soak eggs either — a warm, wet cloth is all they should need.

What to do with dog turds

I'm not sure if this should really be listed under 'Autumn harvests' because it's a year-round crop — a crop that has to be disposed of. Flies will breed in them and they can spread a range of diseases and parasites, including the fatal hydatids. Also, the droppings of any animal that eats high protein food are high in nitrogen so it's a pity to waste them.

The turds can be thrown down a composting toilet, or even a long-drop. The traditional way of dealing with a full, long-drop pit was to plant a pear tree on it, a deep rooting tree that would eventually get massive with its roots in the muck. You can make your own 'dog dunny' — a deep, narrow hole to throw the turds into. Scatter soil or, better still, wood ash over them to keep out flies.

If the turds can be buried, bury them, but they have to be deep, or maggots or eggs may still survive and come to the surface. The best plan is to bury them at least 100 cm deep and plant comfrey on top. Comfrey's deep roots will draw the nutrients from the droppings into its leaves which can be harvested for mulch.

Eating roses

Moving from one extreme to the other, roses are one of the most wonderful autumn crops giving a long flush of flowers before the bushes lose their leaves. Roses taste wonderful, it's their texture that isn't up to much. If you can disguise the texture you can enjoy the flavour.

The most fragrant roses are the best to eat. The 'rose scent' of the Woolies perfume counter is only one of the hundreds of fragrances — and tastes — that a rose can have. My favourite cooking roses are Papa Meilland, a velvet red hybrid tea, and Felicia, a hybrid musk, with small glowing pink flowers held laxly on long canes and with a rich apricot-rose perfume.

Whenever you use rose petals, *cut off the white part at the bottom* — it tastes bitter.

Rose pudding

The flavour and colour of this pudding will vary according to your rose. It should be delicately flavoured and coloured.

Ingredients

One cup of granulated sugar or half a cup of light, pale honey;
2 3/4 cups of water;
rose petals from 20 large roses;
1 1/2 teaspoons of lemon or lime juice;
two tablespoons of gelatine softened in a quarter of a cup of cold water;
two cups of sour cream or thick yoghurt.

Combine the sugar and water and boil for five minutes. Add the rose petals and simmer for three minutes. Remove from the heat and add lemon juice and gelatine. Stir till the gelatine dissolves, then leave for at least an hour. Strain through a sieve to remove the large pieces of rose petal, or puree thoroughly.

Whip the cream, add to the rose mixture, leave in the fridge at least two hours until set. Garnish with small, fresh roses or rose petals or a shaving of lime or lemon peel.

Rose brandy

Pour two cups of boiling water over 250 g of fragrant, deep red rose petals (try Guinea or Papa Meilland). Once cool, puree them, then reheat till tepid and add half a kg of sugar (this may be too sweet for some tastes, so experiment), or 200 g pale honey and stir till dissolved.

Take off the stove and add a litre of brandy. The resulting liquor should be deep, red, fragrant and slightly sweet.

If you wish, take a cupful, add enough arrowroot to thicken, and serve cool as a rose 'kissel'. Use as the liquid for a rose icing or add to fruit cakes or plain butter cakes instead of half the quantity of milk. Even drink as it is.

Rose fool

Take a tablespoon of rose brandy for every cup of cream. Whip. Add more sugar or a touch of

Plant a Pear Tree where the old Dunny was....

lemon juice according to taste. Whip again when the flavour is adjusted and refrigerate till you are ready to serve.

Rose ice cream

Make a custard with two egg yolks for every cup of cream. Stir in two tablespoons of rose brandy while the mixture is thickening, then take off the stove and cool. You can use an ice cream machine according to instructions or just leave the mixture in a tray in the freezer. Stir it with a fork every 30 minutes until the mixture is set.

Crystallised rose petals

Dip perfectly dry, deep coloured, fragrant rose petals in beaten egg white then into castor sugar. Let them dry in an airy spot and store between greaseproof paper in an airtight tin.

Use to garnish cakes, ice cream or yoghurt, or serve them with after-dinner coffee or just by themselves.

Rose petal jam

Dry rose petals in the sun till crisp (make sure all the white bits are cut off). Add four cups of petals to a pan of boiling syrup made with four cups of sugar to half a cup of water and the juice of a lemon. Boil till a little will just set in a saucer of cold water. Bottle and seal. The more petals and the better perfumed, means your jam will be more fragrant.

Alternatively cover layers of rose petals with layers of sugar. When the whole is nearly liquid add the juice of a lemon for every two cups of sugar and boil as above.

Rose sweets

Pour clear honey into a jar stuffed with rose petals (you shouldn't need much honey). Seal and leave on a window ledge for a week. Add to ground almond meal till the sweets are firm and can be rolled in the fingers. Roll again in more meal and store in a cool dry place.

Pickled roses

Cover young rose buds with hot, sweet, spiced vinegar, then leave in the fridge for three weeks before eating. These recipes all use rose petals, not rose hips. There are many recipes with rose hips, but that is another story — and another season.

Until winter, all the best,
Jackie.

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Questions and answers

If you've got a pest that's bugging you, a plant you don't know what to do with, or you've lost a recipe, send a self addressed envelope to Jackie French, PO Box 113, Braidwood NSW, 2622.

Slugging it out with snails

Dear Jackie,

I have a problem with snails and a small dog who likes the snail pellets, which of course upset and nearly killed her. Could you please put me on the right track as I'd like to get rid of the snails, but definitely not the dog, who is important to me.

Estelle Simpson, Tintinara, South Australia.

Dear Estelle,

The best homemade snail bait I know is made of one part bran, one part molasses, one part derris dust, and one part grated raw potato.

Snails are conservative eaters, though, and may need tempting, so you might have to adapt your recipe to the snail's preferences. I've found some like a bit of peanut butter added to the mixture, a touch of old dripping, finely chopped cabbage, grapefruit pulp, or a dash of Vegemite, or beer to moisten the whole thing. It is the derris that will kill them, though, so don't omit it.

The easiest way to test snail bait is to catch a few snails and put them in a box with a punnet of seedlings and a couple of bait mixtures to see which one they go for. If they still go for the seedlings, you need to change your bait.

You can make a snail trap by scattering bran on top of an ice cream container filled with water and buried so the rim is at soil level. The snails will try to eat the bran and drown.

Snail soup will keep snails off your plants, but it only deters the sort of snail you make your soup from (it doesn't have nearly the same effect on other sorts of snails, or on slugs). To make snail soup, gather up your snails and squash them (use a mattock handle if you're squeamish). Add four parts of water to one part snails. Leave for three days to a week, then strain and spray. A less messy option to keep snails off is to spray seedlings with a copper sulphate spray.

A piece of metal bent over at the top and pressed into the soil (with the lip pointing outwards) around your garden will also keep out snails — they can't climb up past the lip.

There are probably as many remedies for snails as there are gardeners — from an electric snail fence made with Big Jim torch batteries to traps of hollowed out potatoes; from resident blue tongue lizards (keep them happy with the odd dose of raw mince) to cabbage leaves smeared with dripping; or from trained snail-eating ducks to stamping on them on wet nights. You must think of snail hunting as a challenge. It is one area where humans haven't dominated the world and still need to tax their ingenuity to beat a tiny pest.

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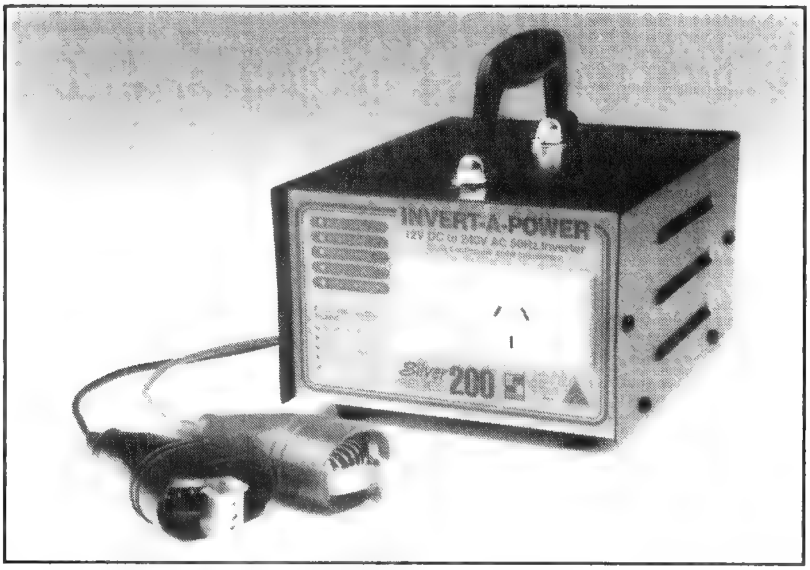

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If you can cook, you can build

BUILDING? IT'S A PIECE OF CAKE!
FLOUR
POWDERED GINGER

by Dr Bob Rich

Healesville, Victoria.

THE 'Friday Workgroup' comprised four owner-builders who worked together once a week (not always on a Friday!). The system worked really well. Each would take their turn to be host about once a month and have the task of organising the day: lining up tools and materials, planning activities for different weather conditions, preparing a good lunch. On my turn, I couldn't actually get much work done myself, because I was too busy organising things for the others. But generally a huge amount of progress was visible at the end of the day.

It was much nicer to work for somebody else. I could enjoy myself doing something useful for a friend, more often than not learning a new skill, and enjoying the company.

Carmel, a member of the group, had bought a little goat barn, more or less for the cost of materials, and over a year or so had converted it into a lovely cottage for herself and her daughter. Carmel and I were working together one Friday, making a stud frame wall for one of the others. We were chatting away about building when she said, "You know, Bob, one day I am going to write a book called *If you can cook, you can build*. Just think about all the similarities."

I did, and realised that she was right.

Well, Carmel never has written that book, so I thought I'd pinch her idea.

For a start, both in cooking and building, a group of professionals, mostly men, keep up a mystique, provide food/buildings for many customers, and look down on amateurs. At the same time, there are lots of people who cook/build for only a small clientele — such as one family — and, in many cases, do it just as well. For us amateurs, the activity is only one of the many things we do during our life, instead of a major professional preoccupation.

Furthermore, ten people with the same recipe, ingredients and kitchen, will come up with ten different flavours. However, with rigid controls, absolute standardisation is also possible, as often happens with institutional food.

Exactly the same is true for building.

Milling and carving

There are a great many other parallels. For example, when you carve a roast, you cut across the grain, because you want the bit of meat to fall apart easily. If you want tough, durable bits of meat, you cut it into strips along the grain.

The same principle applies to timber milling. Timber is milled along the grain, to make the resulting bits tough and durable.

The right dough for mudbricks

Another correlation between culinary and construction activities can be seen with mudbricks. When I explain the consistency mud needs to be for mudbricks, to builders I say, "It's like brickie's mortar", and to cooks, "It's like bread dough". Each requires much the same degree of workability, as does concrete for, say, paving — although that's less sticky.

With concrete, too, the principles underlying the construction of formwork are obvious to anyone who has baked cakes in a springform. It's just on a larger scale.

I spent a day helping a young friend make mudbricks. He had some clay soil with very hard lumps, and some sand. He soaked the clay, then mixed it with the sand. As the sand mixed in, the lumps became easier to break up. I mentioned this to my wife Jolanda, who said, "It makes sense. It's just like when you cream butter — the sugar breaks up the lumps and makes the butter fluffy."

So, now let's look at baking cakes. To bake a cake, you read a recipe which directs you to use a sequence of standard techniques. For example, the butter is melted, or creamed, or rubbed in, and each of these techniques yields a different kind of cake. Things are much the same when making woollen garments. You can choose to knit or crochet. To produce the pattern and shape you want, you follow directions which tell you how to combine various standard methods. Of course, you have to understand the language the directions are written in.

Same thing, different language

It is much the same for making a coffee table, or a hip roof with dormer windows, or a reproduction Chippendale chair. Only the language is different. Instead of having to know what 'rubbing in' means, or 'k2, *pl, k1, rep from * to last st, k1', you look at a set of drawings (technical types are almost always visually oriented, they think in pictures rather than words). These drawings have their own language, which is just as easy to learn as that of cooking or knitting.

Anyway, let's get off the subject of cakes before someone starts putting on weight. Instead, suppose you are going to host a dinner party. How do you go about it? If you are like most people, you'll start by looking through a few recipe books. You'll be looking for something that's a little different from your usual, a bit of a challenge perhaps — but not too much of a challenge because you want the meal to be a success.

Equipment

What you choose to cook will be determined in part by the equipment you have. Not many people will buy a food processor just to be able to follow a recipe which calls for one. It's simpler to find something else to cook. Or, for example, if you want top flavour for minimal cost, you'll limit yourself to vegies which are in season. Maybe you are aware of some things on 'special' and look for recipes which incorporate them.

Next, work out the quantities, and the planning stage is complete. Then, check what's already in the pantry, and go shopping for the rest.

On the day of the dinner party, you read through the recipe, get out all the necessary tools and materials, prepare ingredients, then put them together and cook them in the order directed by the recipe. And, hopefully, if everything goes as it should, you will end up with a gourmet meal!

The Mudbrick Circus

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I followed much the same procedure when I made a chair. I looked at other chairs, and at books describing how to make various kinds of chairs. I don't have a lathe, so any patterns requiring woodturning were out. I don't have a dowelling jig either, so I dismissed any which called for dowelled joints. Some chairs looked too flimsy and elegant to suit my robust lifestyle and mudbrick house. Some looked like too much work, or seemed to demand too high a level of skill.

Finally, I found a book that was published in 1909, *Mission furniture: how to make it*. The first picture in the book was of a solid, simple, attractive-looking chair. The working drawing showed that all the joints were mortise and tenon, something I had done before when making window frames. So, I shopped around for timber, followed directions and made my chair.

Accidents

Finally, both cooking and woodwork can be dangerous activities. What leads to accidents in the kitchen? Untidiness, with things getting in the way; too many cooks milling about; poor layout, leading to different activities interfering with each other (one of these could be a horde of little monsters using the kitchen as a thoroughfare — for this reason a kitchen should be a blind alley); misuse of electric appliances; blunt knives or cutting tools slipping because too much force has to be used; a cook who is in a dreadful hurry, or bored, or angry; slippery floors; a curtain blowing above a flame; a saucepan knocking against a projection, spilling hot liquid; a pan full of fat catching fire, all these can lead to accidents.

What leads to accidents in a woodworking shop or on a building site? Well, there are no curtains blowing above flames, and you don't often heat a pan of fat, but the rest apply almost exactly. 'Inattention', especially when working in a high place; accidents when handling heavy objects; and sheets of roofing tin being blown off by the wind, can all be added to the list.

Well, this will do for a sample. Carmel could have reeled off 20 more similarities between cooking and building. No doubt you'll come up with your own as you learn about building (assuming you can cook of course!).

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Building a pole-framed shed

Jill Redwood, *Earth Garden's* editor of Jillaroo Farm Hints, guides us through building a simple pole framed shed, from selecting and moving the timber to laying the roof.

by Jill Redwood
Goongerah, Victoria.

Well, I don't know about all Australian boys needing a shed, but for boy, woman or hairy goat, sheds are a must in the country. They can house a variety of treasures, tools and machinery. Or they can be the area that becomes dirty and disorderly — the beauty of many sheds, or it might be the just the place to sit in quiet reflection.

You might have been lucky and inherited an old shed on your land. Many of these old characters are works of art which only improve with age and weathering (a bit like their owners!). But for those not blessed with such fortune, you can tailor-make a pole-framed shed quite simply.

First decide on its size, shape and location. The size might be determined by how much roofing iron you've accumulated from the tip, but don't let this be too much of a limiting factor, you can always find more tin. The shape is important if aesthetics are part of your plan. The traditional pitched roof, with verandahs either side, can look more pleasing than a plain skillion roof. The minimal extra effort is worth it. Remember, you'll be looking at it every day for many years. Whether you want it for a workshop or a machinery shed, an animal shelter or a storage space, the shed should be on a dry rise and preferably facing north or east. Animal shelters in particular need to be open to the sun so bedding can dry and the warmth of the sun can get in on a cold morning.

Mark out your floor plan and dig your holes before you bring your logs on site. It's essential that you have a perfectly square or rectangular shape to start with. The walls won't show misalignment, but the roof definitely will. To avoid such embarrassment, hammer small stakes in where you want the corner poles to be. Use a carpenter's square with long pieces of timber as extensions to make the plan as accurate as possible. When all four stakes are placed, make sure opposite sides are exactly the same length and then measure diagonally. This is where any skew measurements show up. Keep adjusting the stakes until all opposite measurements tally (*Figure 1*). When you dig the holes, keep them all to the outside or centred over the stakes otherwise the poles can be out at least 150 mm to 300 mm (six to 12 inches) if you just dig the holes randomly around the mark.

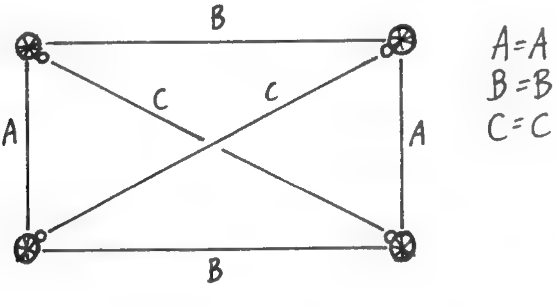
Make sure the pole you put into the ground will last. Red and white box, yellow stringybark, ironbark and generally the slower growing, denser trees are the best. Trees that grow in wet areas are usually prone to rot quickly, although they can be used for structural beams above the ground. Consult a local or a book to find the best suited timber in your area. Depending on the planned size of the shed, choose a tree that will yield a pole about 150 mm to 240 mm (six to ten inches) in diameter, and don't forget to allow for the bark.

Bark immediately

The felled tree should be barked immediately. Don't leave it until the next day. Trees release their bark more readily if there has been some rain or if it's springtime. For stringybark and box varieties, open up the bark with a chainsaw or criss cross cuts with an axe along the length of the pole. Then bash the end you want to start peeling from. This loosens the bark from the wood. Continue bashing the back of the axe along the length of the cut, then go back and pry the bark up. With plenty of moisture in the tree, the bark should come off like a banana peel. If not, it will require a lot more bashing with the axe (*Figure 2*).

Don't throw away the bark, especially if it comes off in one piece. You can soften it by stacking it tipi style over a smoky fire and and then flatten it using other logs. Bark makes great walls for a hut, dunny or animal shelter. The bigger the tree, the thicker the bark. If the bark is only thin,

1



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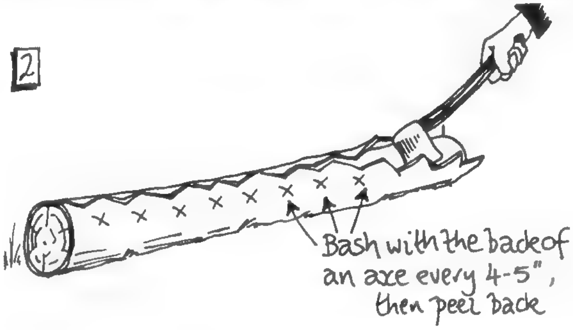
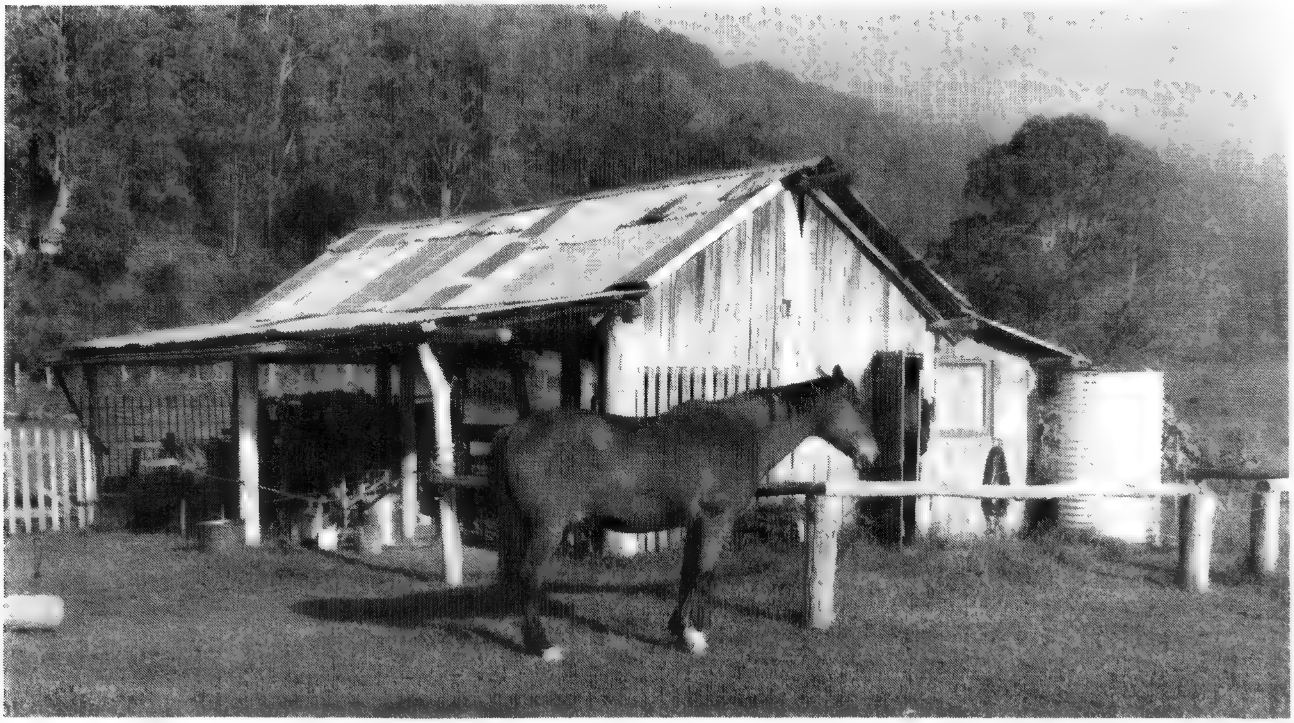

Bash with the back of an axe every 4-5", then peel back



Just one of Jill's simple make it yourself sheds. *(Photograph by David Tatnall)*

it still makes good non-slip pathways or even letterbox cladding. Use your imagination.

Okay, now you have to move the poles. Hopefully you have felled or found a tree on the uphill side of a track. A crowbar and an axe are a great help to get the poles moving. Using the crowbar, get the leading edge of the log on to a good round pole about 50 mm to 100 mm (two to four inches) in diameter and about 300 mm to 450 mm (12 to 18 inches) long. The log should now slide and roll to where you need it.

To propel the log, use the axe as an Aborigine would a woomera with a spear (*Figure 3*). Two or three roller logs makes the task easier. You can also skid the log over the natural forest floor debris. A freshly barked pole will be wet and smooth, so it should spear down the hill quite easily. Just beware below! The roller logs and large drums can be used to lift the end of the log up to the level of the waiting trailer, ute or truck. If the log's up on a bank above the vehicle, a couple of bush poles can be used as runners and a guide for the log to roll down nicely into place on the waiting vehicle.

Back at the shed site

Before you unload, look at the means you have for standing large poles upright. The extra height of the ute or truck tray can be used to your advantage.

Dig the holes about two or three feet deep, depending on the size of the shed and the poles you're using. At this stage it is important to put a crowbar, or preferably two, down the back of the hole. An old grader blade works well, too. The bar will help guide the log into the hole without it gouging out the side the hole and pushing dirt back in. If the logs are still on the vehicle, back up to the hole, drop one end

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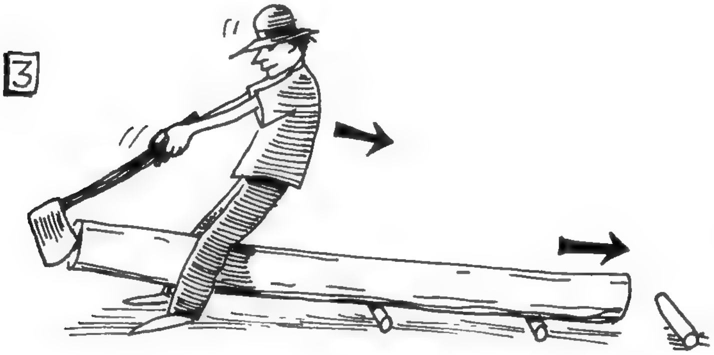

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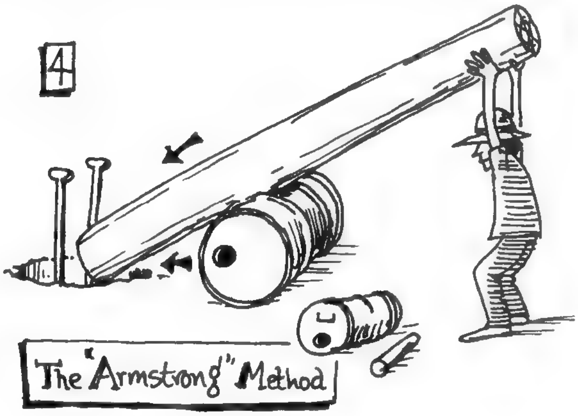
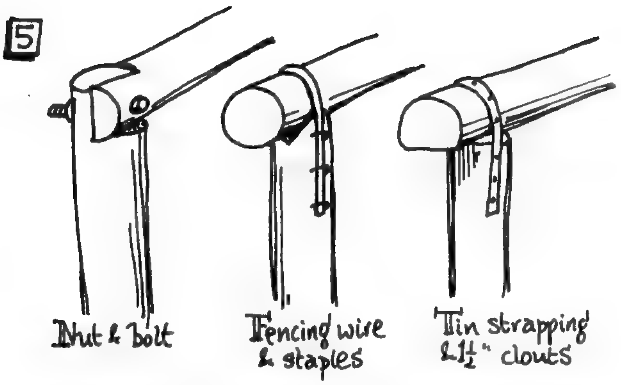
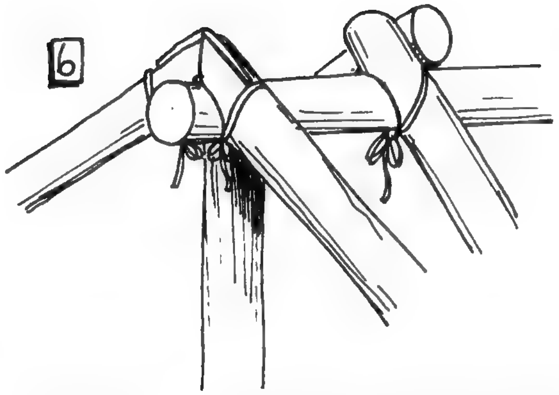






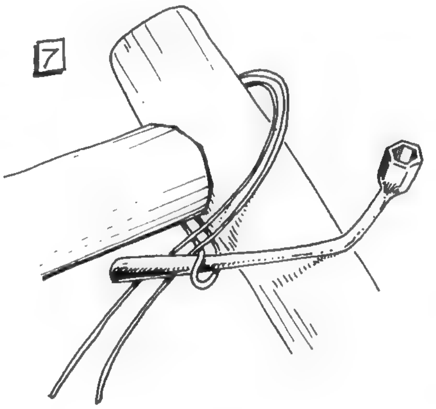
of the log into the hole and lift the other end up. When dealing with a monster log, keep reversing to eventually tip it up and in. This can be dangerous if the log happens to slide sideways while you're reversing, so take measures to keep it in place. For logs on the ground, again use roller logs to raise the top end of the log gradually, increasing the size of the rollers until you can get a 44 gallon drum under the log. Then get the other end in position and roll the drum further along the pole until you can get a good hold underneath and hoist it upright. Smaller poles can be lifted by the 'Armstrong' method (*Figure 4*).

Ram just dirt back around the pole — don't throw any wood or grass into the hole. Ensure that the poles are sitting in the centre of the hole and upright, using a plumbline if necessary.

Keep the uprights in line

Make sure any uprights you are putting between the corner posts are in line. Keep checking this while you are ramming the dirt back because they can often move without you realising. When they are all in place, use a stringline level or just a long, straight-edged piece of timber and a carpenter's level to mark them all at the same height. Saw them either flat on top or into a shallow V which will hold the cross pole in place. If you cut them flat, you will need to cut the cross poles (or top plates) flat where they sit on the upright. The poles can then be strapped together or held in place with fencing wire and staples. If you want to make an immovable job of it, cut each pole to sit onto the other and bolt them together (*Figure 5*). The top plates need to be smaller in diameter than the uprights but still strong enough to hold rafters, battens and the weight of the tin or bark. Try 100 mm to 150 mm diameter poles but this will again depend on the size of the shed and the spans between the top plates. At this stage put in some diagonal braces. Notch them into the poles to give them a secure hold. They can be either full length or a third of the wall height.

For the rafters, use 75 mm to 125 mm (three to five inches) diameter poles. Cut them longer than the required span so they can overhang the walls as eaves. Later, spouting can be fixed to them. If you've designed a traditional pitched roof, try to place your end rafters together on the same vertical plane so that any cladding can be nailed to them without leaving a gap (*Figure 6*). The rafters in the centre can be fixed side by side. Notch a shallow, semi circular piece out of the rafter where it will sit on the top plates. Nail and/or strap them in place (use large nails and drill a hole first), or double up some old number eight fencing wire, and twitch the poles together (*Figure 7*).



After the poles, top plates and rafters are placed, you can either use 75 mm by 38 mm battens, or even straight sapling poles, to place the roofing iron on. Your rafters should be about four to five feet apart and the battens about three to four feet apart. These distances can be changed

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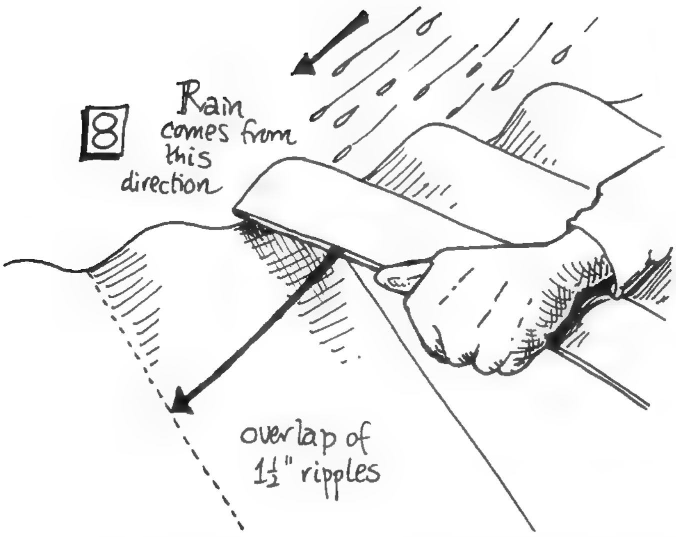
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Rain comes from this direction
overlap of 1½" ripples

according to the size of the roofing iron and poles. Just make sure that with a pitched roof, you put the top battens close enough to the apex to accommodate the ridge capping.

Placing the roofing iron

At this stage, measure the roof diagonally. If it is square — well done! Begin placing the iron on the farthest edge from that which will receive most of the bad weather (*Figure 8*). Failing that, start in the middle, so that any misalignments caused by a skewiff roof will be less noticeable at the ends. Overlap the iron one and a half ripples, with the end ripple facing down. You can gradually straighten the iron as you go, if it seems to want to deviate from your intended ridge line. You can use twisted shank or basic roofing nails. Make sure you get twisted shank nails in the right place first go, because they are extremely difficult to pull out. Use these just around the edges of the roof to be sure the wind doesn't take off with the iron one blustery day. Hammer them in on the rise of the corrugation, not the fall. Grip the nail with a pair of blunt nosed pliers to avoid hitting your thumb more than the nail. For those who make use of recycled roofing iron, you'll probably need to fill the old nail holes in the iron. Black roofing putty can be spread on with an old knife or else use a silicon goo.

Walls can be made of whatever you have: corrugated iron, bark, seconds palings from a local mill, sleeper off-cuts from the bush, mudbricks or good old wattle and daub. And, hey presto, there's your basic shed. Now go forth and fill it.

Postscript

Don't forget the Golden Green Rule, for every tree you cut down plant another ten.

Using a multimeter on a stand-alone power system

A multimeter is a valuable diagnostic tool which, because of its portability and multi function capability, can provide information that a stationary control board cannot.

by Peter Pedals
Nimbin, New South Wales.

A MULTIMETER is ideal for:
- measuring voltage of individual battery cells;
- measuring voltage drop in cables and connectors;
- measuring the charge rate of individual solar panels;
- measuring power consumption of individual lights and appliances;
- checking calibration of meters on the control board;
- checking light bulbs and diodes.

Buying a multimeter

It's advisable to get a multimeter with either a ten amp range or a 20 amp range. The preferable voltage range is 0 to 15 volts for a 12 volt battery bank or 0 to 30 volts for a 24 volt battery bank. It would also be useful to have a 0 to 3 volt range for testing individual cells of a NiCad battery. For our purposes, the ohms scale isn't important except for testing continuity. You will also need a set of insulated, slip-on alligator clips.

If what you are attempting to measure is constantly fluctuating, an analog meter is easier to read (a needle points to a scale of numbers) than a digital meter. For measuring the voltage of a battery bank and DC currents and voltages generally, a digital meter (which has an liquid crystal display similar to that of a calculator) is preferable.

Hints

1. When using the meter, pay particular attention to polarities and check positive and negative points. The red lead

connects to positive and the black lead to negative.

2. It is generally good practice to position one probe first (usually the negative probe), and secure it, with an alligator clip or by finger tightening a screw onto it, before testing or probing with the other probe. This means you need to concentrate on handling only one probe.

3. If you are checking unknown currents and voltage, use highest range first, then next lower range, and so on until readings can be obtained.

4. For most accurate readings, keep the meter lying flat on a non-metallic surface. Also, use a range setting that results in a reading in the upper third of the meter scale.

5. For exact, parallax-free readings of an analog meter, look at the scale from the point where the needle and its reflection on the mirror behind come together.

Warnings

1. Do not apply voltage to probes while the range switch is in 'current' or 'ohms' position.

2. Testing AC wiring circuits can be dangerous. Never clamp on to a 'hot wire' (usually red or brown) because, if you touch the other probe, you could receive an electric shock. For your own safety leave the AC diagnostics to a qualified electrician — concentrate on the DC circuitry.

In preparing the following guide, I presume that you have read the multimeter instruction manual?

DC voltage measurement

Select the required DC voltage range (if in doubt start from the highest range and work your way down until a reading can be obtained) with the probes connected to the points to be measured.

Open circuit voltage

Open circuit voltage (OCV) is the terminal voltage of a battery at rest, that is, no charge or discharge. OCV is the most meaningful voltage of a battery because it can indicate the state of charge. Each cell of a fully charged lead-acid battery should have an OCV of about 2.1 volts. At 50 percent discharge, the OCV will be about two volts per cell. At roughly 1.8 volts per cell or less the battery is considered discharged.

It is good practice to compare the OCV of the component cells of a battery bank occasionally (if the intercell connectors are accessible). This will allow you to identify the sluggish cells. The sluggish cells should be given an identifying mark and used for the regular monitoring of the battery bank, and can be used to identify when a boost charge is needed. The variation between the best and the worst cell should not be more than 0.05 volts.

A NiCad battery has an OCV of about 1.25 volts per cell and the variation between charged and discharged is difficult to measure because the voltage varies so little.

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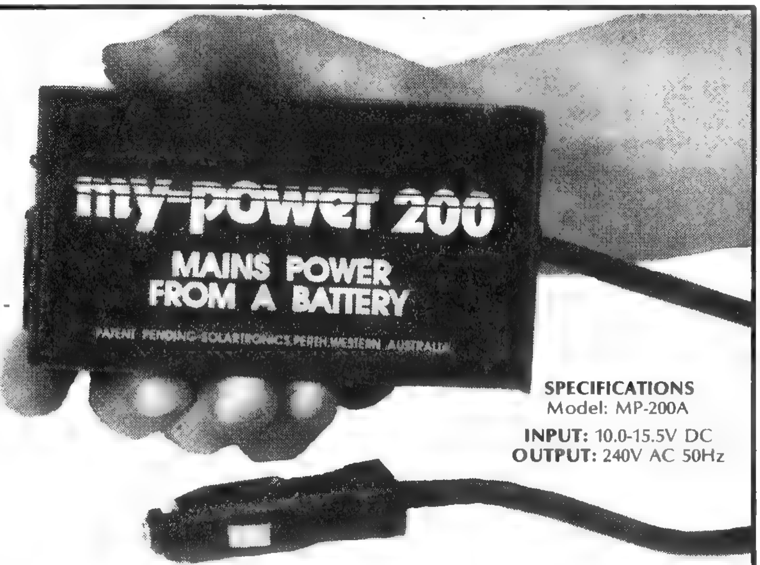

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Charging voltage

The voltage of a battery being charged can give you an indication of when that battery has reached full charge. This is *not* an OCV.

While it's charging, a battery's voltage may not vary much for most of the charge but then rise quite dramatically once the battery is full. A lead-acid battery voltage will rise to between 2.3 and 2.4 volts per cell when fully charged. A lead-acid battery left in a state of partial or total discharge for a long time (months), may be sulphated and have a very high internal resistance. If so, the charging voltage may behave as if the battery is full when it's not. A specific gravity reading with a hydrometer will show that the battery is not fully charged. While a NiCad battery is being charged, the voltage may rise to 1.6 volts per cell. A NiCad battery never suffers from sulphation so the charging voltage is a reliable guide to the battery's charge level.

Measuring voltage drop

A voltage drop will only occur while there is a current flowing. Voltage drop is directly proportional to the amount of current flowing and the cable length. You can obtain the voltage drop by comparing the voltage readings at each end of a cable — subtract the lower reading from the higher reading. To reduce the voltage drop you may need to increase the cable size and improve the connections.

Testing for continuity

To measure continuity, you need to have a voltage source.

A poor connection or a break in the house's wiring can be found by tracing the wires outwards from the battery bank, using the bank as the voltage source.

With the meter on the appropriate voltage scale, start by measuring the voltage at the battery. Now trace the wires to the next appliance or testing point and connect the probes. Continue until you get a reading of no voltage. This shows that there is a break in the wiring between this and the previous test point.

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A drastic voltage drop may indicate a poor connection or damaged wire, or corrosion in a connector or a wire. Undersized wiring would also produce a voltage drop.

Testing a light bulb

This test can only be applied to incandescent type light bulbs; fluorescent lights will not respond.

Use one of the ohms scales on the meter or the continuity function, if it has one. (For these functions, the multimeter should have an internal battery.) Some multimeters have a built-in continuity function which sounds a buzzer. Test it by selecting continuity on the range switch and touching the two probes together. If it buzzes, you can then hold the probes onto the two contacts of the light bulb — if it buzzes, the light bulb is okay.

Using ohms scales for continuity

If there isn't a continuity function on your multimeter, you can use one of the ohms scales.

Select an ohms scale and touch the probes together. You should see the needle of an analog meter move right across the scale; a digital meter should change from maximum resistance to zero. Most digital meters will show a high number which flashes (overrange) when the circuit is broken (no continuity). If you get the appropriate response from

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your meter, hold the two probes onto the light bulb contacts. If the needle of the analog meter moves across the scale or the digital meter reads zero or low, there is continuity and the light bulb is good.

Testing a diode

A diode is like a one-way valve that allows the current to flow in only one direction. A good diode should show continuity in one direction but no continuity (or overrange) in the other. Do not test the diode while there is an external voltage connected (solar panel, for example). This will affect the outcome and possibly damage the meter.

Connect the probes to the device you want to check and note the meter reading. Reverse the probes and note the second reading. If one reading shows some value and the other is overrange, the device is good. If both readings are overrange, the device is faulty (open circuit). If both readings are very small or zero, the device is also faulty (short circuit).

DC current measurement

With the test leads connected to the points to be measured, select the required DC current range (if in doubt start from the highest range and work your way down until a reading can be obtained). Amps are usually measured by breaking the continuity of the positive line and connecting an ammeter between these two points.

To measure discharge rate, the ammeter on a control board needs to be able to read the power consumption of the maximum number of things that may be turned on at once. Such a meter would hardly register and therefore would be almost useless in measuring a low consumption.

Low power consumption

A 12 volt electric fence energiser and a battery powered radio are two examples of appliances that can be on for long periods but with low power consumption. Continual low power consumption will accumulate, however, so it is useful to be able to measure it.

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Testing the current consumption of a light or appliance

Make sure that whatever you are about to measure is turned off. If all the positive connections are made at one common link it may be easiest to break the continuity at this point. Links often have numbers stamped into the brass to identify the wire locations. Simply undo the screws that hold the wire you are testing. Finger tighten the screws back onto the positive probe. Fix an alligator clip onto the negative probe to grip the end of the wire that just came out of the link. When all the connections are secure, you can turn the appliance on and check its current consumption.

Checking the charging rate of a solar panel

Again you need to break the continuity of the positive line, but you don't need to turn anything off first. The positive probe connects to a point that goes back to the panel and the negative probe to a point that goes on to the battery bank. Check individual solar panels by connecting directly to the panel itself. To measure the total output of the combined solar panels, remove the solar fuse on the control board and use the fuse contacts as the test points.

Power (watts) versus current (amps)

To calculate the power consumption of an appliance or the power output of a solar panel, simply multiply the measured current by the measured voltage.

Power loss (watts)

The power loss of cable and connectors is calculated by multiplying the measured voltage drop by the measured current flow (see 'Measuring voltage drop' and 'Testing the current consumption of a light or appliance').

Amp-hours and watt-hours

Amp-hours are calculated by multiplying the current (amps) by the number of hours that that current has been flowing. To calculate watt-hours, multiply amp-hours by measured volts.

Peter Pedals has been involved in writing about alternative energy matters in Earth Garden *for many years. He also has written* Energy from Nature, *published by the Rainbow Power Company, Cullen Street, Nimbin, NSW, 2480.*

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Homemade wine

by Ray Hawthorne

Franklin, Tasmania.

"WHAT will we do with all these parsnips?" I cried. "Make wine!" answered my wife. And so began my interest in wines. That was 1983, after we had just moved to Tasmania and had our first big crop of parsnips (we planted too many).

We had John Seymour's classic book, *A Complete Guide to Self Sufficiency*, so this is where we looked for a recipe. He didn't let us down. There on page 194 he told us to chop up four lb of parsnips, cover them with water, add two lemons and boil until just soft. We strained off the liquid into a bowl and, while it was still hot, dissolved in three lb of sugar. Still following instructions, we allowed it to cool to 25° C and then added yeast (we only had baker's yeast so we used one teaspoon of that). We poured the liquor into a one-gallon glass bottle (two half gallon flagons would suffice). We topped up the bottle with water leaving about two inches clear at the top and put a wad of cotton wool in the neck. This would keep out the insects and dirt but allow the gas to escape. We left it in a warm place to ferment, which started the next day and continued for two months.

When it seemed to have stopped fermenting, we siphoned it into a clean bucket, washed out the bottle and poured it back in so it could continue to settle and, hopefully, clear. This is called racking. We tasted it of course, and it wasn't too bad. We left it for a further four weeks and tried it again. It was a little clearer but not perfect. However, we were impatient by then, so we bottled it, (one gallon makes six bottles).

The first bottle

We tried the first bottle with some friends about a month later. It was good, a little sweet, a bit cloudy, definitely alcoholic and quite interesting. We decided for our first attempt that it was a success. The other bottles didn't clear but each improved with age and we finished the last one a year after bottling.

I've learned a lot in the eight years since then and now produce about 40 gallons of wine per year. My friends have also become interested and we have great fun sampling each other's efforts.

Most of what I've learned is from reading many of the countless books on the subject, or by trial and error, discovering what works and what doesn't. I've learned to follow recipes carefully, realising each ingredient has a special purpose, and that a mistake could make the wine a failure.

Try the easy recipes I've supplied and if you enjoy it, do some reading. Wine making is an art and a science.

Basically, I make wines only out of surplus produce, which makes it very economical at about 50 cents a bottle. I do not use recipes that call for too many special ingredients that have to be bought, like grape concentrate or raisins because they only add to the cost and really are not essential.

If you want your wine to taste good, be clear and bright, ferment properly and keep well, then you must use additives, such and campden tablets, yeast nutrient, pectozyme, citric acid, grape tannin and wine yeast. All of these are available quite cheaply from your home brew supply shop. If you are against using any additives then you should read a book called *Wine Making the Natural Way* by Ian Ball, although I haven't tried any of the recipes yet.

The first book I bought and still use is, *Tritton's*

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Guide to Better Wine and Beer Making by S M Tritton. It is simple to follow and has many useful tips and recipes.

My most successful wines are those I make from a large surplus, such as zucchini, blackberry and plum. These days I use five-gallon, food grade, plastic barrels. You can get these and one-gallon jars from your home brew shop. They cost about $30 for the five-gallon and about $10 for the one-gallon jar, but they last a long time and you will soon redeem the cost. I also use proper bungs and air locks now.

Here are a few tips worth remembering:

1. Follow the recipe
2. Sterilise all equipment
3. Use rainwater if possible
4. Keep fermenting wine warm (14 to 25° C)
5. Keep clearing wine cool
6. Be patient!

Recipes

Plum wine

Pour three pints of boiling water over three lb of plums in a bucket, add one lb of sugar and dissolve, add three pints of cold water and stir. Test the temperature, which should be about 25° C, then add one tablespoon of pectozyme, one campden tablet, half a teaspoon of yeast nutrient and one teaspoon of all purpose wine yeast. Cover with a cloth and store the bucket in a warm place. Stir twice daily for about five or six days, by which time it should have started fermenting. Strain into another clean bucket and dissolve in a further two lb of sugar, pour into a one-gallon jar and top up with water leaving about two inches free at the top. Fit the air lock and let fermentation continue for about two to three months. Rack until clear and then bottle and leave for 12 months before drinking.

Tea wine

Here is a simple, cheap wine you can make any time of the year. Make a large pot of very strong tea (ten spoons). Any type of tea will do, but herb teas make interesting wines.

Strain the tea into a large bowl and dissolve two lb of sugar and add one sachet (25 g) of citric acid to the tea (rinse the leaves if you want more colour). Allow to cool to 25° C then add one teaspoon of yeast nutrient and one teaspoon of all-purpose wine yeast. Pour into a one gallon jar, top up with water, fit the air lock and leave to ferment for about a month. Rack until clear and then bottle. It will be ready to drink after about six months.

I have made wine successfully using pears, plums, peaches, nectarines, rhubarb, blackberry, raspberry, elderberry, quince, zucchini, parsnip, pea pods, elder flowers and tea. You can use many other different ingredients, it just depends on what you have.

Good luck and cheers.

Blackberry!

The English blackberry was introduced into Victoria in the 1850s both for its fruit and in the hope that it would help control erosion along our creeks and waterways. Little did our ancestors realise how well the plant would thrive in our comparatively warm climate.

by Scot Gardner

Hazelwood North, Victoria.

THE blackberry is a quick growing plant with a perennial crown that produces erect or trailing canes up to six metres in length. It grows best in areas with an annual rainfall above 750 mm. Approximately nine different species have naturalised in Victoria. The blackberry is deciduous in its native land, but Australian winters generally are not severe enough to cause total leaf-fall, allowing the unchecked plant to create extensive and dense thickets by shading out existing vegetation.

The blackberry fruits prolifically, producing around 500 seeds per square metre a year. Birds, foxes and many other animals (including humans) enjoy eating the berries, which ensures extensive seed dispersal. Fruit that falls into waterways is often carried many kilometres from the parent plant. Seeds germinate in the spring, but because young plants are particularly prone to shading, not many survive. Propagation is mainly through canes tip rooting: when the tip of a cane touches the ground, often six metres from the parent crown, a daughter plant is established. Lateral roots can produce suckers and a new plant can grow from a cane or root cutting.

Wombats, birds, foxes and rabbits will often make their homes in blackberry brambles and, ironically, the dense, impenetrable thickets allow our smaller native birds to nest with little risk of attack by cats.

The plant produces large crops of nutritionally dynamic fruit and grows voraciously in any well drained but damp soil. It propagates itself continually and has very few pests and diseases. It also carries thousands of needle-sharp thorns. Once the bush is established, stock tend to avoid it so it just continues to grow, until one day you might find a thorny cane tapping on your bedroom window.

Controls

Blackberry leaf rust fungus (*Phragmidium violaceum*) attacks the leaves, stems and sometimes the mature fruit of the plant and represents one form of biological control. Research into the effectiveness of this fungus has been in progress since 1979, but in early 1984 a strain of the rust was illegally imported and released into Victoria. The rust spreads rapidly but doesn't affect all species, so it is likely that resistant strains will take over from susceptible ones and we will see only minor changes in the overall population.

In the past, the Department of Conservation and Environment in Victoria has recommended as suitable poisons such noxious chemical gems as 245-T, Tirclopyr and Amitrole-T, but the thickest, hardiest plants tend to grow on the banks of waterways and should not be sprayed because of the probability of contamination. Also, for effective control, most poisoned plants have to be sprayed again the following year. These areas are usually inaccessible to machinery, too.

Control through cropping and cultivation is effective only if it is intensive but this can have a bad affect on the soil's condition and natural structure. Digging canes into the soil will only produce new plants as cuttings later on.

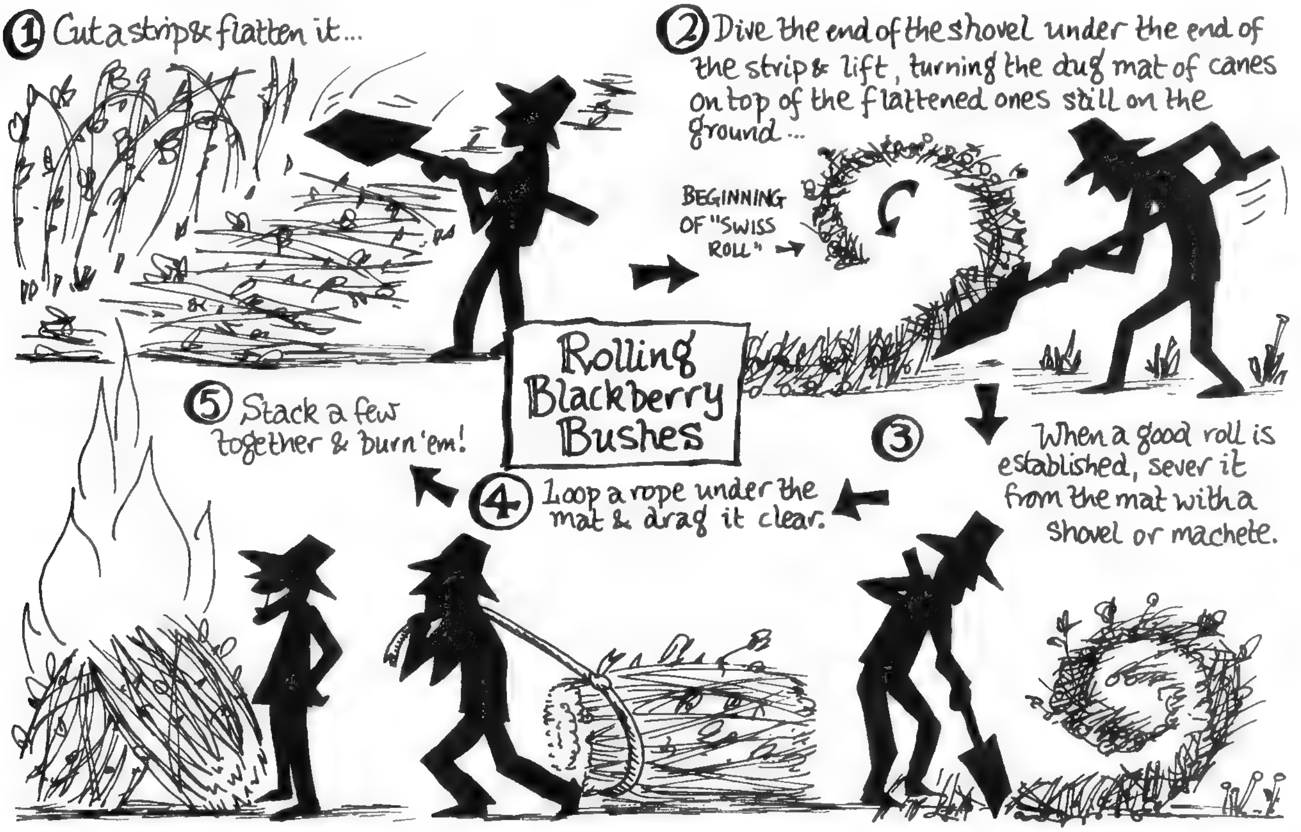
When the plants are small or the canes have been removed, goats are efficient grazers on the stubble. Short-haired goats are preferable because the long-haired breeds (and sheep) tend to get tangled in old canes.

The most effective means of controlling blackberry on small holdings is to dig the whole plant out in the autumn, so that crops sown on the exposed land get a full winter to establish before the remnants of the blackberry regrow in spring. A systematic approach is required.

To deal with a large patch, cut a path from the edge (running downhill on sloping ground) to create a strip four or five metres wide. Every cane in this pathway must be severed and the whole area isolated by the pathway should be trampled. This is probably the most fun of the exercise.

Starting on the uphill side, drive a long-handled shovel under the edge of the flattened canes and lift. A second person can attack the exposed crowns with another shovel, taking care to lift as many roots as possible. In friable soil (such as the creek loams that the blackberry loves), often just lifting the shovel under the dense mat of canes is enough to lift the crowns and a good score of roots.

Use the shovels as levers to roll the dug crowns onto the flattened strip. Continue digging and lifting until a good sized roll has been formed. Using a shovel or machete, sever this roll from the flattened patch. Loop a rope under the roll


Rolling Blackberry Bushes
① Cut a strip & flatten it...
② Dive the end of the shovel under the end of the strip & lift, turning the dug mat of canes on top of the flattened ones still on the ground...
BEGINNING OF "SWISS ROLL"
③ When a good roll is established, sever it from the mat with a shovel or machete.
④ Loop a rope under the mat & drag it clear.
⑤ Stack a few together & burn 'em!

and drag it aside. You'll be left with a compacted mass of mostly old dry canes that, with the help of some kindling, will burn very quickly.

The exposed ground is likely to be in good condition and ready to start a vegie patch or be sown with pasture grasses, but the area will be prone to other weed infestations such as thistles, ragwort and teasel. Your local seed merchant will tell you which grasses are winter active and suited to your area. Winter active grasses get the head start they need over the blackberry seedlings which will undoubtedly appear the following spring. You can control the regrowth by grazing the area as soon as the sown grasses are established. Goats are ideal as they hunt out the blackberry, relishing it as roughage.

There is no doubt that the blackberry has a strong foothold on large tracts of good land. This is not quite what our ancestors intended, but with a bit of hard work and regular treatment the blackberry can be kept at bay.

Learning the ropes

by Graham Hardy

South Townsville, Queensland.

OVER the years, I have learned many useful lessons and facts about ropes from acknowledged experts. From my father and uncles, who were keen sailors in racing skiffs; from construction riggers; and from instructors at the National Emergency Services College at Macedon, Victoria, where I qualified as a State Emergency Service rescue instructor.

Now I would like to pass onto *Earth Garden* readers some of what I have learned to help you to work more safely and efficiently with rope. With that purpose, it is necessary to know the 'What', 'How', and 'Why' of ropes.

What is used to make ropes

Natural or synthetic fibres can be used in rope manufacture. We'll first look at those made from natural fibres.

Manila

The fibre used in Manila rope is made from the stems of the abaca plant, which looks like a banana tree. It grows in the Philippines (hence the name), and it is strong, and resistant to sun, rain, and abrasion. It is the best natural fibre rope for general lifting and hauling. It varies in colour from a light brown to brown.

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Sisal

These ropes are made from the fibres of the agave plant which grows mainly in the Indies. Sisal looks and performs like Manila, but is paler in colour (a creamy white) and only about 75 to 80 percent as strong. It is not as abrasive-resistant as Manila. To avoid confusion between these two ropes, some manufacturers weave a red or blue thread through the Manila. Manila and sisal are the best of the natural fibre ropes.

(**Note:** Under no circumstances should any other natural fibre rope be used to lift, haul or hold loads or people.)

Hennequin

Be careful with this one. The hennequin plant originated in Mexico, so this rope is sometimes called 'Mexican sisal' and it can be easily mistaken for genuine sisal, because it looks almost the same. Sometimes the rolls are marked 'Mexican sisal', so take care to read the labels closely. Hennequin has only 50 percent of the strength of true sisal, so beware. It is useful for tying parcels, boxes and in the garden, because it is usually cheaper than other ropes. Although not as good as Manila and sisal, hennequin does have better ultra violet resistance than some other natural fibres, and therefore should not be underrated.

Coir

This rope is made of coconut fibres. It has high resistance to water and does not swell tightly in the knots when wet. It dries out quickly, but does not have the same UV resistance as sisal and Manila, and is only about half as strong. I used this rope many years ago as an anchor line on a small boat and found it to be quite satisfactory. The larger diameter required to compensate for the lower tensile strength, makes it a lot easier to grip and pull.

Hemp

These ropes are made from the stems of the cannabis sativa plant. Although quite strong, it is used mainly for tarred parcelling for wire ropes, marlines and ratlines in the stevedore and shipping industries.

Cotton

This will be recognised as a clean, smooth, white rope with a uniform diameter. Although quite strong, it has little elasticity and is used mainly for decorative work. At one time, it was used extensively in yachting because of its clean appearance and its ability to run smoothly through sheaves and to hold knots. Although still used by many yachties, the synthetics have almost completely taken over.

Synthetic fibres

Nylon (polyamides)

These ropes have a soft, lustrous appearance. Fibres are continuous and staple, and circular in section. The rope is very strong, rot proof, and can sustain repeated heavy loading. Nylon fibres are often used in climbing ropes, such as the kernmantle types, because they are about three times stronger than Manila but of equal diameter. Sometimes called 'Perlon', the rope is sensitive to sunlight, and loses about ten percent of its strength when wet. This is one of the reasons why the kernmantle ropes, have a protective shroud of UV resistant material around the 'straight laid' core of nylon.

Terylene (Dacron)

This polyester rope has only about 75 percent of the tensile strength of nylon, excellent UV resistance and loses no strength when wet.

Polypropylene

These fibres, too, are about 70 to 80 percent as strong as nylon. They resist most acids. The rope is strong and tough, and has good stretch recovery, but be careful with it. It has excellent sunlight resistance, if UV stabilised. If it does not state clearly on the label that the rope has been stabilised, then it ***must*** be assumed that it has ***not***, and therefore will deteriorate rapidly in direct sunlight, and become ***dangerous*** to use. ***Always*** inspect the label on the coil from which it was cut yourself. Unstabilised, it would be quite satisfactory for use out of direct sunlight — down a well or bore as a permanent retrieve line on a foot valve, or as a spare town or anchor rope that will spend most of its life in a box or under water. Water has no effect on its strength, but, because of its smooth, slippery surface, it does not grip well in some knots, so care must be taken with your selection of knots. (I'll be looking at knots later on.)

Polyethylene

This is sometimes called 'silver rope', or 'silver sisal' because of its lustrous, silvery colour. It floats on water, resists most acids, oils, greases, and solvents but requires the same caution as applied to polypropylene in regard to its UV stabilisation. It holds knots very well, provided they are 'dressed up' well. These properties make it an excellent choice for marine uses. It is about 30 percent lighter and stronger than manila, but should be regarded as being the same when calculating safe working loads (SWL).

There are ropes of mixed fibres, such as polypropylene/polyethylene which is also sold as 'silver rope' or 'silver sisal'. Such rope inherits the good and the bad points of the two fibres. The mix of fibres determines its best use.

I have covered the most common types of natural and synthetic ropes on the market, and hope there is enough information for you to make an informed selection. The points to remember, are:

- Know exactly what you want your rope to do.
- Read the label on the coil carefully, as there are pitfalls with both types of fibres.
- Try to buy your rope from a specialist stockist, especially if it is to be used for lifting or hauling. He will advise you properly. Supermarket or hardware store staff generally do not have the specialised knowledge to advise you properly.

In the next issue of *Earth Garden*, we shall look at how and why ropes are made the way they are.

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The Glen Arcade, 675 Glenferrie Road,
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Earth Garden in Environment expo

AFTER the success of last year's show the Third National Environment Expo, a comprehensive exhibition of environmentally sound products and services, will again be held at the Royal Exhibition Building in Melbourne from 18 to 26 April

Hosted by the Australian Commission for the Future, the aim of the 1992 Expo still is to encourage individuals to change their behaviour to protect the Planet. Emphasis will be on saving energy and money; on growing healthy food safely; on building energy efficient housing; on using fuel efficient transport; and, of course, on the three Rs — reduce, reuse, recycle.

The Alternative Technology Association will have a special display in the popular 'Energy 2000' section of the Expo, which will also feature presentations from commercial and industrial exhibitors and government departments. There will also be building displays featuring mudbrick, recycled timber, safe paints and innovative housing design.

Free seminars on the second weekend of the Expo will look at reducing energy costs in the home and offer advice on recycling glass, paper and plastics, on organic growing, and on building with mudbricks. As well as displays from schools throughout Victoria under the theme 'Caring for our Planet', local councils will promote their latest environmental initiatives and be eligible for the Municipal Environment Achievement Awards. These too will be announced at Expo.

A large range of environmentally sound personal care, domestic and gardening products will be available to the public, many at special Expo prices.

And of course *Earth Garden* will be there. We thoroughly enjoyed ourselves at last year's Expo, so we're really looking forward to this one. We'll be showing off our range of books and magazines, plus a few other interesting bits and pieces. Come along and say 'G'day', you never what you might find — or who you might meet.

Earth radiation

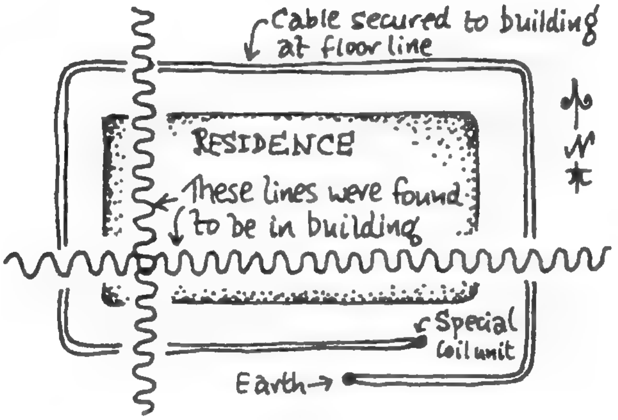
This article should be read in conjuction with Andrew's story, 'Building it log solid', featured in Earth Garden 78.

by Andrew Toth

Watagan, New South Wales.

GEOPATHIC rays are natural earth rays which have been distorted by the electromagnetic fields of subterranean running water, certain mineral concentrations, fault lines and underground cavities. These rays are believed to be harmful to living organisms. I recently had my house tested for geopathic radiation with L type rods by Bill Jackson, a member of the Dowsers Society of New South Wales.

Two lines of disturbance were found. Interestingly, the only two places I have had my bed were exactly on those lines — almost as if I had sought them out deliberately. Bill told me that this was common and that people seemed to be attracted to the rays, although he didn't know why. However, he did say that when a house was cleared of harmful rays, the occupants often suffered withdrawal symptoms. I can only surmise that we seek out these rays for their stimulating effect.


Cable secured to building at floor line
RESIDENCE
These lines were found to be in building
N
Special Coil unit
Earth

To treat the house, Bill laid a length of three-core power flex around the building in a clockwise direction, with one end overlapping the other by one metre. He connected the beginning of the cable to a special coil unit, and the end to a good earth point. This was, in effect, a large Lakhovsky coil. Once it was set up, Bill tested the house again, first with rods, then with a pendulum. No disturbances were evident.

Bill Jackson has been involved in the detection and treatment of geopathic rays for seven years. He may be contacted at 14 Farm Street, Speers Point, NSW, 2284; phone (049) 58 4000.

Jillaroo Farm Hints

Edited by Jill Redwood

Jillaroo Farm Hints **presents bush skills and farm tips each issue. All readers are welcome to contribute. If you have any hints up your sleeve that you inherited from Granny or developed yourself, send them to: Jill Redwood, Editor, *Jillaroo Farm Hints*, RSD Goongerah, East Gippsland, 3888.**

Slippery rope

Nylon rope is notorious for being slippery and refusing to hold a knot. Wrap a piece of sandpaper around it and run this up and down the length to roughen it. This will make it easier for both you and the knot to hang on.

Preserving hint

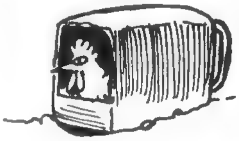
When packing chutneys or jams into a jar, avoid dribbles or drips around the top by cutting the top off a plastic bottle and using it as a funnel. The plastic bottle should have about a one inch neck to allow lumps to go through easily.

Copper stand

If you have an old copper but not a copper stand, you can improvise with a 44 gallon drum. Cut a hole in the top leaving a one inch lip all the way around. Then, depending on its use, you can leave the drum at its original height or cut it down to two-thirds. The short version heats up more quickly but the full height saves you bending over. Cut a hole in the front where the firewood is to be fed in, and another hole at the top of the back. If you can fit a flue to this hole all the better.

Nesting boxes

Tea chests make very good chook nesting boxes. Small fruit boxes can be a little too cramped for larger chooks because they don't like getting their tails crumpled. For a nesting box that's easy to clean and won't harbour lice, use a square black plastic drum with two-thirds of one end cut out. Use plenty of dry grass or straw inside.



Kero lamp repairs

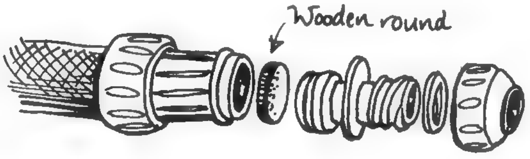
Breaking the glass of a kero lamp can be annoying, but breaking the bowl and stand is even worse. If this happens, find a squat jar with a metal screw-on lid and make a hole in the centre of the lid large enough to fit the wick holder. Silicone or solder the join. Squat jars don't tip over as easily and kero won't soak up a wick very well if it's longer than four inches.

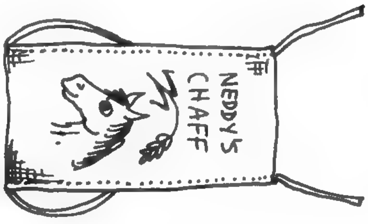
Knife sharpening

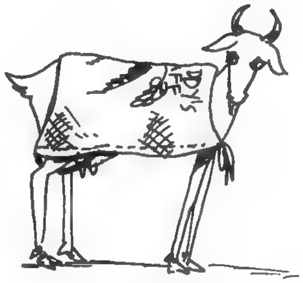
Try using detergent to lubricate an oilstone next time you sharpen a knife. It doesn't seem to 'gum up' as easily as when you use oil.

Polypipe stopper

To make a temporary stop on a length of polypipe that takes the place of a stop valve, fix a joiner to the end and, depending on the size of the polypipe, cut a quarter-inch round off a tree limb or broom handle to fit neatly in the centre of the joiner. This will block the flow of water when you reassemble the joiner. If you only want a limited flow of water from it, say to fill a small trough while you water a large garden, drill a quarter inch hole in the centre of the round of wood.







Goat coat

To make a "sickie's" or "sookie's" coat for a sheep or goat (commercially called Nimmity coats) use a synthetic chaff bag and sew six inch tabs to the corners at one end. Down the other end sew another two tabs about 12 to 14 inches long. Sew the other ends of these tabs back along the side of the bag. The back legs go through these. This keeps animals happier in wet windy weather.

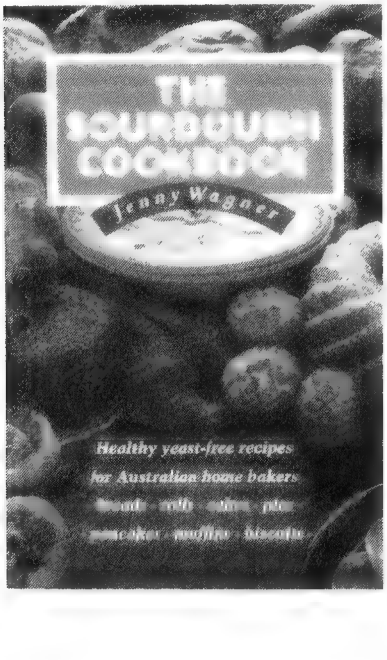
EARTH GARDEN REVIEWS

Edited by Judith

The Sourdough Cookbook
by Jenny Wagner
Published by Viking O'Neil, $16.95 RRP.

Sourdough is a natural leaven which lightens dough by causing it to ferment. It is the oldest leavening in the world. It also makes the best tasting bread. This book is written in a lively manner and is good value at $16.95. It is beautifully presented and written with much charm. Many an *Earth Garden* kitchen will no doubt be full of the warm, fresh smells of freshly-baked sourdough selections. Jenny Wagner makes all the recipes very clear and simple in her book.

A basic sourdough recipe, called "the starter" is given. This lightens up pancakes, scones, pastries, cakes and of course bread. The starter, when stored properly, will improve with age, and is the basis for Jenny's incredible array of recipes. The selection of recipes here is mouth-watering. The dishes come from Austria, Wales, Czechoslovakia, Italy, England and gypsy caravans. Very diverse indeed! The range includes batter breads, quick breads, cakes, pastry and biscuits, not to mention traditional breads, pies and desserts. Quick pecan pies are without a doubt my favourite.



A Modern Australasian Herbal
by Kim Fletcher
Published by Viking, $40.00 RRP.

This is undoubtedly a must for anyone with an interest in growing and using herbs. The format for discussing each herb in the book is clear and concise. A detailed botanical description is given, accompanied by a large drawing for general identification. Then the author gives a summary of the herb's traditional and present day uses, followed by a description of medical and culinary applications. The cultivation requirements are also described.

This is in fact and A-Z of herbs. There is also a chapter on herbs by continent of origin. Extremely interesting! There are a number of "new" herbs discussed. These are herbs which have been introduced to Australian herb gardens in recent decades from non-traditional sources, such as Asia, and North and South America. Until now very little information has been available on their uses and cultivation. The author discusses exotic herbs such as echinacea, sweet Annie, chia and epazote.

Chia struck me as a very interesting introduction from northern Mexico. It was an important herb to the Indian tribes of south-western USA and northern Mexico. Chai grows 50 cm high and has blue flowers. It was a food plant, readily available, highly nutritious and easy to digest. The seeds were collected and used in a number of food and drink preparations. It was believed that as little as a teaspoon would sustain a person for 24 hours on a forced march. Spanish invaders soon learned the value of chia and used it for food and poultices to treat gunshot wounds.

A Modern Australasian Herbal is attractively pieced together with many beautiful colour photographs and line drawings. A must for any herb buff, and definitely worth saving your pennies to buy.

Hand Painted Textiles For the Home
by Kazz Ball and Valerie Janitch
Published by Greenhouse, $40 RRP.

This book is beautifully illustrated and is jam-packed with practical information. It is glorious to look at and gives you much confidence to try your hand at a wide range of painting and decorating techniques. There are plenty of ideas for jazzing up your existing decor with hand-painted cushions, curtains, lampshades and soft furnishings. There are many different techniques covered including the art of stencilling, the gutta-serti technique, batik, marbling and patchwork. An extensive chapter on design and inspiration gives even the beginner enthusiasm and confidence for any project.

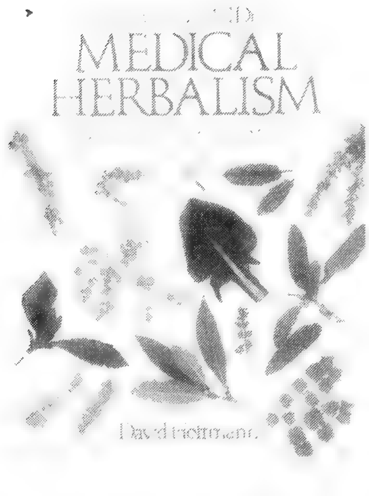
Designs, motifs and colour ideas are included, all of which you can work on at home by following the step-by-step instructions. This is a healthy addition to any needlecraft and textile library.

Thorsons Guide To Medical Herbalism
by David Hoffmann
Published by Thorsons, $16.95, RRP.

This book is an excellent introduction to medical herbalism. It is loaded with practical information giving both the beginner and the more experienced practitioner the information required to further develop skills.

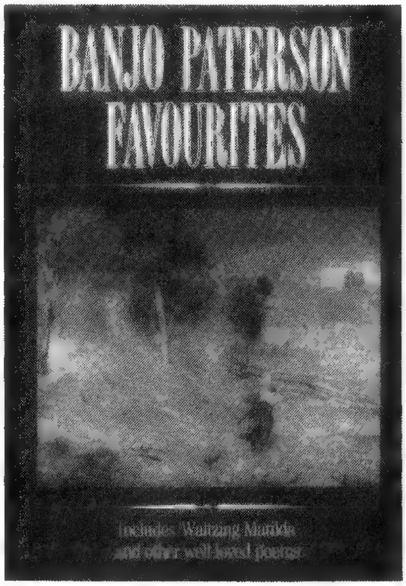
I feel it has been written in a responsible way, pointing out where caution should be taken. David Hoffmann explains that it is only recently, in our scientific age, that medical herbalism has been ignored. At least we are now beginning to remember and recognise the value of natural medicine.

Healing is much more than the impact of a drug or herb on our bodies. It is very deep and involves all of what we are. Healing must be tackled in a wholistic way.



Hoffmann deals with all aspects of medical herbalism, working through a brief history of modern herbalism, the actions of herbs, growing, drying and preparations.

The book includes an A-Z of herbal treatments, divided according to the main body systems and their ailments. Although this is an English book it is extremely comprehensive, and would be most useful to the Australian herbalist.


BANJO PATERSON FAVOURITES
Includes Waltzing Matilda and other well loved poems

Banjo Paterson Favourites
Published by Viking O'Neil, $19.95 RRP.

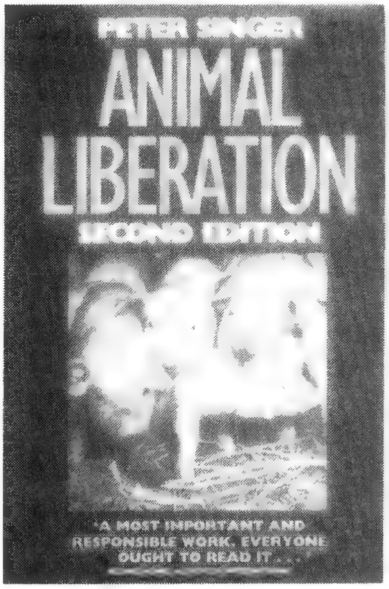
How many times have you heard *Waltzing Matilda* started with much gusto, only to fizzle out because no one really knows all the words? There is no doubt that Banjo Paterson captured the essence of the Australian bush and its people. He died over 50 years ago but remains unmatched in his ability to spin a yarn. Drawing his characters from shearers, drovers, stockmen and punters, "the Banjo" has immortalised the romance of the Outback and pioneer days.

It is marvellous to watch the face of children as they follow the verse of the classics such as *Man From Snowy River*, and *Clancy Of The Overflow*. Teaching children an appreciation for the quality of verse as well as Australian folk lore is indeed a special thing and does much for Australian culture in the face of the continuing Los Angelisation of our country. Alongside the many etchings in this book are other classics such as *The Man From Ironbark*, *Mulga Bill's Bicycle*, *The Road To Gundagai*, and many more. The cover illustration is a classic as well: Tom Roberts' *A break away!*, painted in 1891. This a very attractive selection and a welcome addition to Alan's library — Tane simply loves being read Banjo Paterson!

Animal Liberation
by Peter Singer
Published by Thorsons, $19.95 RRP.

Consumers have been conditioned to ignore the realities of meat production. The fact is we turn a blind eye to the suffering of animals, as well as the shameful waste of resources the livestock industry causes. The horror of unjustified pain suffered by animals in scientific, military and commercial laboratories is brushed under the carpet in the name of "progress". Peter Singer points out that as humans we share with animals "the capacity for suffering". It is for this reason that those who oppose human suffering must also oppose suffering inflicted on animals.

This new edition of *Animal Liberation* reviews the movement itself as well as describing in shocking detail "what happened to your dinner when it was still an animal". Ignorance seems to be the strongest form of defence for the speciesist. The media coverage of non-human animals is dominated by "human interest" — the birth of a baby gorilla or a documentary on wildlife is far more important than the latest farming techniques used in veal production. This book is stark and shocking but an important revision for the animal liberation movement. Congratulations to Peter Singer.


PETER SINGER
ANIMAL LIBERATION
SECOND EDITION
'A MOST IMPORTANT AND RESPONSIBLE WORK. EVERYONE OUGHT TO READ IT . . .'

The EARTH GARDENER'S Companion

JACKIE FRENCH

The EARTH GARDENER'S Companion is a month-by-month guide to organic planting, gardening and harvesting. It is a fruit and vegetable-growing calendar for the not-quite self-sufficient. It's an excellent introduction to natural pest control for any time of year your garden is being munched by non-humans. With the Companion you will know what to do in your garden at any time of year and get a total picture of organic garden health: not the artificial view you get from the back of a chemical fertiliser packet.

"There are plenty of useful hints which even non-organic growers will furtively pursue, and the common sense, non-dictatorial approach to organic gardening makes enlightening and stimulating reading."

"This infinitely readable and entertaining month-by-month guide to organic gardening is bound to attract the attention of commercial growers who are producing organic fruit and vegetables."

-Horticulture Today.

Jackie French is an expert and successful organic gardener who practises what she preaches, and understands that in home vegetable gardens, labour is usually in far shorter supply than enthusiasm.

The EARTH GARDENER'S Companion is available from Earth Garden for $8.95 posted. See page 56 to order it. The Companion is printed on recycled paper.

EARTH GARDEN UNCLASSIFIEDS

Unclassifieds are 40 cents per word, prepaid. The deadline for the next issue is 8 May.

THE HOMEBUILT DYNAMO (1987) by Alfred T Forbes ISBN 0-9597749-0-4. Hard Cover. Size 30 x 21 cm. Detailed low-tech (no electrical knowledge required) plans for building a one kw low-revving brushless DC generator for wind, water, or steam power. A 150 w foot-powered version with battery storage system is also described for the energetic person with modest electricity requirements. Reviewed in *Earth Garden* 60 and December 15, 1989 issue of *Model Engineer*. Price $85.00 post paid, airmail from Todd-Forbes Publishing, Dept D7, Box 3919, Auckland, New Zealand.

SEED: fruit, nut, gingers, bamboos, ethno-botanicals . . . hundreds of species available. Personal collection in season ensures viability. For list, send SASE to Fruit Spirit Botanical Garden, Dorroughby, New South Wales, 2480.

'FOCUS ON HERBS' — quarterly herb magazine covering herbal medicine, ethnobotany, research, craft, cookery, cultivation, folklore and more. Specialist writers from Australia and overseas. Cost $16 per year. 'Focus on Herbs', PO Box 203, Launceston, Tasmania, 7250.

PERMACULTURE DESIGN COURSE FOR TEMPERATE REGIONS—CHILTERN, NORTHEAST VICTORIA. 20-29 March, 1992. The tutors will be: Vries & Hugh Gravestein. Costs: $370 tutoring with various accommodation tariffs. Learn from those who have done it on a PC demonstration property. Contact: V Gravestein, RMB 113, Chiltern, Victoria, 3683. Telephone (057) 261 596.

BOOKS, old and new. Send for a general list. Please contact R Suters, PO Box 127, Fig Tree, New South Wales, 2525.

65 plans for homes of mudbrick, rammed earth, stone and pole frame construction (145 pages). Mail $42.00 for "The Earth Builder's Construction Detail and Plan Catalogue" to John Barton Building Designer, 31 Sharp Street Newtown, Geelong, Victoria 3220, or phone (052) 224249 for fixed quote to draw/document your home plan.

ANCIENT SATURN TO ATLANTIS — A teenager's travel guide to the evolution of people and the world in the light of Rudolf Steiner's Spiritual Science. A book by Alan Whitehead — send $10 to: Golden Beetle Books, Box 481 Mullumbimby, NSW, 2842 — or write for titles list.

Rainforest Seeds. The Rainforest Seed Collective Newsletter is now available. Yearly subscription $10 or $7 concession. Help preserve rainforests in your area. Join our network of seed collectors. Send subscriptions or SASE for more information to: The Rainforest Seed Collective, PMB Bellingen, NSW, 2454.

PERMACULTURE DESIGN COURSES. The aim of these courses is to teach sustainable property design applicable to rural and urban situations. The course will cover the design and establishment of vegetable gardens, orchards, windbreaks, tree crops and aquaculture. Strategies for soil rehabilitation, dam construction, solar house design and appropriate technology will also be studied. Venue: Crystal Waters, a private ecological village. Tutors: Frances Lang TAFE permaculture lecturer and Max O Lindegger teacher and consultant of permaculture internationally. Tours are a prominent part of this course and include site visits of innovative techniques. Dates: 21 June to 4 July; 1-14 November. Information: Jeff Michaels, Crystal Waters, Box 52, (MS 16) Maleny, Queensland, 4552. Phone (074) 944 676.

OLD APPLE VARIETIES. Modern ones too. Australia's biggest range. Order ahead for winter supply. For details, send SAE to Badger's Keep, Chewton, Victoria, 3451.

EARTHWORMS. Composting and gardening. 1000 to 4000 worms $15/1000 plus freight. 5000+ worms $12/1000 plus freight. Tablelands Earthworm Supplies. Phone (067) 72 6459 (after 4 pm).

TREE SEEDS — Southern European oaks, Algerian holm, cork etc. American oaks — mesa, red etc. Black walnut, tree lucerne, honey locust etc. $2 per packet plus postage. For a catalogue send SSAE to: H & A Gravestein, c/- Wyndham Post Office, NSW, 2550.

TOBACCO SEED, organically grown, (Virginian) cultivation and curing notes are included. Send $5 to Lyn O'Brien, C/- Post Office, Barmah, Victoria, 3639.

EARTHWORMS, $15.00 per 1000 including full information on breeding etc. and delivery Australia-wide. Phone (09) 4544357 or post cheques to Mr Gary Barker, 5 Kite Court, High Wycombe, WA, 6057.

GOURD, FUN GARDENING! Specialising in: books, magazines, fresh and dry gourds for craft, birdhouses, musical instruments, seeds and people's needs. For information send a stamp to The Australian Gourd Club. 187 George St EG, East Maitland, NSW, 2323. Phone (049) 336624.

WANTED—COMFREY PLANTS. Nowra area. Please phone Gail Clarke on (044) 460139.

PERMACULTURE DESIGN COURSE — FOR TEMPERATE REGIONS. CHILTERN, NE VICTORIA. Due to overwhelming demand two new courses are now open for bookings. 8 to 17 May and 27 September to 11 October. The tutors will be: Vries & Hugh Gravestein. Learn from those who have done it — on a PC demonstration property. Contact: V Gravestein RMB 1130, Chiltern, Victoria, 3683. Please telephone: (057) 261 596.

PERMACULTURE DESIGN CERTIFICATE COURSE. Far south coast, New South Wales. Specific to cool temperate systems, strategies and species. A two week residential course. 11 to 25 April, 14 to 28 November. Tutors: Hugh Gravestein, Andrew Sheridan, Vries Gravestein. Register now as numbers are limited. Enquiries, Hugh Gravestein c/- Wyndham Post Office, NSW, 2550. Phone (064) 942014.

LAND LINES

LAND LINES are for people buying, selling, seeking or sharing houses and land. It is your responsibility to check all deals. We charge a rate of 40 cents per word (prepaid) for a listing of any desired length. All LAND LINES should include your name and address (phone number is optional). LAND LINES for the next issue should arrive at RMB 427 Trentham, 3458, by 8 May.

STANTHORPE — for rent, option to buy. Three bedroom pioneer's colonial on bushland acreage. Cleared paddocks. House basic, no electricity, needs help. Has open fireplace, slow combustion stove. Seeking pioneering handyperson and family. Township, schools in walking distance. Farm work available. $70, $200 bond. Write to Tom PO Box 78, Stanthorpe Queensland, 4380. Include your phone number please.

25 KM FROM DORRIGO TOWNSHIP, NORTHERN NEW SOUTH WALES. 90 picturesque acres. Two-thirds of the land is cleared, one-third is still rainforest. There are three creeks, and one dam. 40 foot x 25 foot steel-framed and aluminium-clad shed, potbelly stove, sink, shower and toilet. Please telephone (03) 265 6553 for more details.

13 SHARES IN STARLIGHT COMMUNITY. 20 km from the Sunshine Coast. Includes three bedroom council-approved timber home in forest setting. Alternative power system includes generator, batteries, solar panels, inverter etc. Good swimming dam. $90,000. Phone (074) 469 611 or write to Sam Bennet, PO Box 68, Yandina, Queensland, 4561.

FOR LEASE to mature Greenies — bush farmland south of Hobart. Ring (018) 734127.

WEETAH, TASMANIA. 20 acres, perfect for sustainable living. Large comfortable three bedroom timber cottage. Permanent spring water, gravity feed, fenced, organic garden, sheds, school bus, phone and electricity. Seven kilometres to Deloraine. $75,000, phone (045) 754 020.

FOR SALE. BLACKBUTT, QUEENSLAND. 10 acres of good soil, two titles. Phone (07) 7780441.

HOME FOR SALE, MT ELIZA/SOUTH FRANKSTON. Large home, 26 square, 4 bedrooms, sun room, two lounges, dado walls, dining room, open fireplace, upstairs balcony, modern blackwood kitchen, beautiful treed block, tennis courts/schools nearby. Four minute walk to Davey's Bay beach, lovely home full of character. Family going overseas to permaculture work. $185,000 negotiable. Please telephone Michael and Ilana Cowan (03) 787 9326.

HOUSE AND SHARE IN 200 ACRE COMMUNITY. Established large orchard and vegie garden. Renovated large old Queenslander. Solar and gas. Close to Maleny and Sunshine Coast, one hour to Brisbane. $140,000. Please telephone (074) 961685 nights.

DARLING DOWNS. House on 160 acres. Very fertile soils. Well shaded and sheltered by natural timbers. Six dams. 24 volt solar power. Slow combustion stove. Yards, loading ramp, shed. School bus to primary and high schools. $160,000. Please telephone (076) 915785 for more details.

SOUTH COAST NSW — 45 minutes west from Pambula. For sale, 120 bush acres at end of private road. River and creek frontage, fenced river flat, levelled house site, sheds. Live in the modified double decker bus (complete with solar power, stove, bathroom, phone), while building your dream home. Surrounded by forest but overgrown and in need of TLC. $60,000. Contact: Sue (02) 809 2624.

WANTED, DONGARA AREA, WESTERN AUSTRALIA. House to rent or buy, with or without acreage; or vacant town or country block to buy. Please contact Randall Carman c/- Moblas 5 Tracking Station, Yarratha, PO Box 137, Dongara, WA, 6525; phone (099) 291011. Or Donna Carman c/- Seaspray Caravan Park, 81 Church St, Dongara, WA, 6525 (099) 271165. Okay to leave message at either place.

115 ACRES OF UNCLEARED LAND. Ideal for a retreat. Two hours west of Port Macquarie, between Wauchope and Walcha. Plenty of wildlife, permanent river at rear boundary. $85,000 ONO. Phone (047) 586871 evenings.

WANTED: GRAFTON AREA. Two houses in the same village or on the same property. Would like five acres, electricity and access to school. Can spend up to $100,000. Contact Bev Kocaj, PO Box 2, Yenda, NSW, 2681. Phone (069) 681212.

WEST GIPPSLAND, EASTERN HIGHLAND FOOTHILLS. 31 acres, permanent spring water, creek boundary, 10 acres of 20 year old Pinus Radiata, 10 acres of pasture, sealed road, SEC/phone available, school bus passes, driveway formed to home site, top quality red soil, excellent rainfall, beautiful views, supportive community, 40 minutes to town. Two hours to Melbourne $59,900. Phone (03) 755 2848.

OBERON — FOR SALE/TO LET. Beautiful small farm of 81 acres. Suitable for rural retreat or permanent living. Cold climate, permaculture ideal, with rich basalt soil and abundant water supply. Safe rainfall area of 34 inches per year, good drinking water and irrigation from bore serviced by electric pump. Two large dams, excellent netted fencing (half is new) divides property into four large, and one smaller house paddock. See magic rural views from the comfortable olderstyle house with one large bedroom and huge glassed sleepout. There are two open fireplaces, an Everhot slow combustion stove with hot water and electric stove, a large lounge and an eat-in kitchen, 1 1/2 bathrooms (an older one with bath and electric HWS and a new one with shower and septic loo). There are two x 3000 gallon water tanks, good carpet and paint work. The property is quiet and private and very scenic but school bus is close by to primary and secondary schools. A shearing-shed (fitted with a one stand shearing plant) and tool and bike shed, and old but useable sheep yards, complete the picture. The 175 sheep currently running can be given in with sale if required. Price $120,000 ONO. To let $85 per week to lease house and house yard. Contact Joan Levy (047) 512872 AH, or (047) 392595 BH.

MARYBOROUGH, QUEENSLAND. Charming colonial cottage on 1/4 acre. Freshly painted, plenty of space under, fully fenced, close to school and town but rural views, fruit trees and vegie gardens, $72,000. Phone (071) 215861.

BELLINGEN, NORTH COAST, NEW SOUTH WALES. Stunning three bedroom house, studio, 1/6 share in Promised Land Community (31 hectares). Power, water, good access, lush valley, diverse town, $140,000. Contact Peter (03) 844 1344 AH.

BATHURST. TO LET — $130 per week. Country house on acres. Quiet, secluded yet only 15 minutes from Bathurst. Very spacious three bedroom home with huge rumpus/family room, lovely bathroom and laundry, good carpets, two wood heaters. Bright and airy, tank water, phone, and handy to school bus. Contact Joan Levy (047) 512872 after hours, or (047) 392595 business hours.

LATE UNCLASSIFIEDS:

NORTH QUEENSLAND SUBSCRIBERS: Our new business has expanded. We are now located at "POWER BILL'S", 94 BOUNDARY STREET, RAILWAY ESTATE, TOWNSVILLE *(in the old mower shop, opposite the NATIONAL).* We provide an agency for RAINBOW POWER (Nimbin) and SOLAR EDWARDS H/W (Perth). Now we are able to demonstrate the practical use of renewable energy right in the heart of the CBD! Feel free to drop in for a chat, enquiries are on us and the work we do is at reasonable rates with a professional flourish.

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EG5: The wind — windmills . . . windpumps . . . generators . . . raku pottery . . . Cinva ram . . . poultry . . . Hamburghs . . . moon planting . . . fallout shelter . . . vegan way.

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EG7: Solar 2 — hot water . . . Mudbrick techniques . . . Angora goats . . . make a leather bag and belt . . . mushrooms . . . natural dyes.

EG8: Gas power — methane digester . . . by truck to Tassie . . . cumbungi hats . . . inkle loom . . . candles and tapers . . . country cottages . . . A-frame . . . school gardens . . . sourdough.

EG9: LP gas . . . Mary's place . . . building with stone rubble (slipform) . . . macrobiotics . . . oats . . . ducks . . . rug frame . . . how to kill a pig.

EG 10: OUT OF PRINT.

EG11: Water — hydraulic ram . . . waterwheels . . . okra . . . seed primer . . . heavy horses . . . tomatoes . . . soft technology . . . wine . . . hard cheese . . . start with hens.

EG12: Keeping food — drying . . . salting . . . bottling . . . storing . . . tahu . . . tropic delights . . . plant propagation . . . plans for a solar water heater . . . solar stills and cooker . . . Moora Moora.

EGs 13—15 OUT OF PRINT.

EG16: A Lytel Herbal (Part 2) — comfrey, lavender, wormwood, yarrow . . . poultry shed . . . peafowl . . . goats . . . basic beekeeping . . . rammed earth building . . . hydraulic ram.

EG17: Fencing . . . dry stone walls . . . make soap . . . nets . . . pole shelter . . . breeding black sheep . . . The Autonomous House . . . asparagus . . . Aeolian harp . . . ducks . . . Khaki Campbells.

EG18: Fruit garden . . . oranges . . . lemons . . . olives . . . nuts . . . tropical fruit . . . fodder trees . . . road building . . . wood fired kiln plans . . . Cinva-ram cottage . . . sunflowers . . . homebirth.

EG19: Wood heat — pot bellies . . . Jotul . . . cooking . . . making a quid . . . build a storage cellar . . . bushfires . . . stonefruit . . . macadamia nuts . . . binding your EGs . . . tree planting . . . budding.

EG20: Apples . . . pears . . . cordon and espalier . . . build a haybale pig house . . . pollen . . . rose hips . . . mudbrick flats . . . solar homes . . . gourds . . . preserve fence posts.

EG21: Womancraft — all articles by women . . . earthly arts . . . axewomanship . . . glove puppets . . . spinning . . . weaving . . . easy rugs . . . Sumatran house . . . old roses . . . Index (EG10-20).

EG22-23: Australian Access Sourcebook . . . 150 pages . . . Aborigines . . . organic growing . . . permaculture . . . earth building . . . wind . . . solar . . . water power . . . technology . . . water supply . . . access to groups, plans, books, tools.

EG24: Place — 24 new settlers write . . . Mare Carter . . . Ron Edwards . . . Neil Douglas . . . Gundaroo Store . . . Rainbow Region . . . Mt Oak . . . Moora Moora . . . Universal Brotherhood . . . bush ashram.

EG25: Australian Access Sourcebook (Part 2) — 130 pages . . . livestock . . . aquaculture . . . fencing . . . killing . . . tanning . . . food and nutrition . . . grain grinders . . . solar homes . . . methane . . . greenhouse . . . Dorothy Hall.

EG26: The earth-built kasbahs . . . owner built homes in stone . . . timber . . . mudbricks . . . a slab cottage . . . tree felling . . . solar electrics . . . acorns . . . compost dunny . . . quandong . . . pumpkin recipes.

EG27: 100 tropical food plants for Australia (part 1) . . . 16 legumes . . . winged bean . . . pigeon pea . . . lablab . . . cowpea . . . adzuki bean . . . blacksmithing . . . bluestone building . . . wok cooking.

EG28: Tropical food plants (part 2) . . . horse and buggy . . . packhorsing the Alps . . . black sheep . . . Merinos . . . bullocks . . . tamarillo . . . stringybark baskets . . . solar trike . . . persimmons.

EG29: Mudbricks — the monastery at Stroud . . . Bob's bonza brickmaker . . . earth floors . . . curved walls . . . herb roof . . . cutting axe . . . low energy design . . . coconut mats . . . mangoes . . . tropical food plants (part 3).

EG30: Organic growing — compost heaps, pits, trenches, boxes, bins and barrels . . . no-dig . . . mulch carpets . . . semi-arid growing . . . preserving figs . . . tempeh . . . pasta . . . glass bottle windows.

EG44: Plug in the sun — solar electric systems . . . 12V to 240V . . . batteries . . . inverters . . . alternative washdays . . . how to make a pedal drier and 12V computers . . . solar panel booster . . . Solar Trek.

EG45: Waterworks — shifting water with sun, wind and water . . . solar electric pumps . . . gravity feed . . . hydraulic ram . . . Platapump . . . the cyclone-defensive house . . . bunya nuts . . . 12 V problems.

EG46: Windworks — wind generators . . . solar trackers . . . water turbines . . . 12 V bilge pump . . . herbal shampoo . . . compost loos . . . Tanzania . . . the algae pond . . . 12 V lights . . . Krypton lamps.

EG47: Practical projects . . . hanging a door . . . household plumbing . . . waterwheel pump . . . cycling Mongolia . . . the sun-pump . . . livestock . . . Aussie yurt . . . pigeon pea . . . bee tools . . . Peter's pedal machine.

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EG32: Year of the Tree — St Barbe Baker . . . tree tales . . . how a tree works . . . farm tree . . . native from seed . . . coppicing . . . Neil Douglas interview . . . cob building . . . log house (part 2).

EG33: Tenth anniversary issue . . . timber felling . . . lifting poles . . . post and beam design . . . log house (part 3) . . , parquet floors . . . backyard rabbits . . . goats . . . fowls . . . dry pit loo . . . portable henhouse.

EG34: China — communes . . . trees . . . fish farming . . . recycling human wastes . . . biogas . . . transport . . . travel notes . . . Chinese earth building (Ron Edwards) . . . rainforest . . . bread and jam.

EG35: Bees and trees — tribute to St Barbe Baker . . . backyard bees . . . mudbrick workshop . . . footings for earth walls . . . make a solar collector . . . magpies . . . earthworms . . . fodder trees.

EG36: Retrn to Nimbin . . . new settlers . . . a woman builder . . , pawpaw plantation . . . solar electric systems . . . potty garden . . . choughs . . . Peru . . . lavender sachet . . . biological building . . . farm structures.

EG37: HARD TIMES . . . making paper . . . newspaper fuel . . . rags to rugs . . . barter . . . slush lamps . . . sawdust stoves . . . Depression dodges . . . hand grain mills . . . 120 household hints.

EG38: Hard Times tucker . . . bread . . . soups . . . yoghurt . . . no-meat meals . . . beer . . . electric grain grinders . . . Gujarati village . . . mudbrick hermitage . . . earth walls and bushfires . . . Noel's island.

EG39: Build Peter Pedal's bike wheel wind generator . . . fire without matches . . . bushfire defensive house . . . avocado growing guide . . . rosehips . . . car battery power . . . farm energy . . . backyard food.

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EG 53: Horse drawn gypsy holidays . . . solar refrigeration . . . cottage gardens . . . organic scale control . . . do-it-yourself land transfer . . . bartering . . . chaff cutters . . . controlling scale . . . natural cow care . . . solar fridge design . . . earth bricks made easy . . . the Land Rover.

EG54: 12V solar lighting and appliances . . . tomatoes . . . chick brooder . . . inverters for 240V appliances for solar systems . . . boring for water . . . festivals.

EG 55: Mudbricks from heavy clay . . . managing plant diseases . . . building a baby's cradle . . . a biodynamic farm . . . making cider . . . a hot drum warning . . . a solar control board . . . thoughts on solar retailing . . . thyme . . . owner builder apprenticeship.

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EG 61: Making futons . . . Building a mudbrick hothouse . . . Using wood heaters . . . A herbal tea farm . . . Growing grain . . . 12 volt amp and turntable . . . Cattle diseases . . . Lemon balm . . . donkey training . . . Resharpening a bushman's saw.

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EG 63: Special 'Bicentenary' issue — Aboriginal Australia and self reliance . . . Traditional shelter and agriculture . . . Rangers at Kakadu . . . Gary Foley interview . . . Mudbrick desert community centre . . . 19th Century Aboriginal farmers . . . low voltage washing machines . . . Roofing tips . . . Battery warning . . . Fostering calves

EG 64: Organic farms in Spain . . . Buying at clearing sales . . . Making and laying a shingle roof . . . Basic home electrics . . . Dealing with building inspectors . . . The Seed Savers' Network . . . Backyard astronomy . . . Mudbrick plastic coats . . . Herbs: watercress . . . wholesome education.

EG 65. Puppet making . . . Making pasta . . . Televison-free zone . . . Make a battery-operated blender . . . Food irradiation update . . . Cherryplum glut recipes . . . Earth sculpture . . . 12 volt wiring basics . . . Fallen timber into firewood . . . Angelica.

EG 66: The Demountable Throne . . . The Healthy House Cow . . . Confest '89 . . . EARTH GARDEN INDEX, EG 51-65 . . . Egg gluts . . . bees . . . Solar powered workshop . . . Insect bites . . . Home power batteries.

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EG 74: Termite breakthrough . . . Worm farming in Western Australia . . . Life on a verandah.

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EG 77: I've left it at home again. Why is this always the last job? Ho-hum. It's 2:30 am. I'm gunna fix this up next issue.

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EG 78: Self sufficiency in the suburbs . . . Make your own axe handles . . . Roof sprinklers: proof they work . . . Large scale organic compost making . . . Mudbrick house plans . . . Buying the bull . . . Tank cleaning . . . A biodynamic vineyard . . . Build a billy cart . . . Jillaroo Farm Hints.

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